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The Canadian Practitioner and Review

ADAM H. WRIGHT, B.A., M.D.

W. H. B. AIKINS, M.D.

EDMUND E. KING, M.D.

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List of Contributors

Aikins, W. H. B., M.D., Toronto.	Macfarlane, Percy B., M.D., Hamilton.
Bingham, G. A., M.D., Toronto.	MacMurchy, Helen, M.D., Toronto.
Canadias, Dr. Alexander, Paris, France.	McCullough, J. W. S., M.D., Toronto.
Clarkson, F. Arnold, M.D., Toronto.	McIlwraith, K.C., M.D., Toronto.
Degrais, Dr., Paris, France.	McKenzie, A. F., M.D., Monkton, Ont.
Durand, Charles F., M.D., Toronto.	McLaughlin, R. G., M.D., Toronto.
Dyke, Miss Eunice H., Toronto.	O'Reilly, Brefney, M.D., Toronto.
Fenton, Frederick, M.D., Toronto.	Pasteur, Dr. O., Paris, France.
Ferguson, John, M.A., M.D., Toronto.	Palmer, Frederick S., M.D., Toronto.
Fraser, J. B., M.D., Toronto.	Parfitt, C. D., M.D., Gravenhurst.
Goirell, Lieut.-Col. Charles, M.D., Ottawa.	Powell, N. A., M.D., Toronto.
Gruner, O. C., M.D., Montreal.	Price-Brown, J., M.D., Toronto.
Guiteras, Ramon, M.D., New York.	Roberts, James, M.D., Hamilton.
Hamilton, Herbert J., M.D., Toronto.	Ryan, Edward, M.D., Kingston.
Harrison, F. C., M.D., Toronto.	Sheard, Charles, Jr., M.D., Toronto.
Hay, S. M., M.D., Toronto.	Shuttleworth, C. B., M.D., Toronto.
Hodgetts, Charles A., M.D., Hamilton.	Sprague, James S., M.D., Perth.
Hobbs, A. T., M.D., Guelph.	Stevenson, Wm. O., M.B., Hamilton.
Hunter, John, M.B., Toronto.	Taylor, Frederick, M.D., Greenwich, Eng.
King, Edmund E., M.D., Toronto.	Third, James, M.D., Kingston.
Loudon, Julian, M.B., Toronto.	Watson, B. P., M.D., Toronto.
Lyons, Mortimer, M.D., Toronto.	Whyte, M. B., M.D., Toronto.
	Wodehouse, Robert E., M.D., Fort William
	Wright, Adam H., M.D., Toronto.

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The Canadian Practitioner and Review

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Original Communications

THE TREATMENT OF INOPERABLE CANCER OF THE UTERUS

By WILLIAM O. STEVENSON, M.B., (Tor.), HAMILTON.

The writer, after reading over the literature on Uterine Cancer, was impressed with the vast amount of research work being carried on in the different parts of Europe and America. The pathologist, the serologist and the chemist give us as yet little encouragement for the so-much-longed-for radical cure. We still have to turn to surgery as the one measure giving the best results, and notwithstanding all the advances in the technique of radical operations, this measure is very uncertain. In the meantime, how much suffering is going on while this experimenting is being done, to find a cure? How can we best relieve until that cure is forthcoming?

In order to appreciate the foregoing remarks the following brief résumé is made to show:

Firstly,—The progress made in the different research laboratories on the diagnosis of cancer in its incipient stages.

Secondly,—That surgery offers as yet the best treatment, but its results are exceedingly poor.

Thirdly,—That there is a great field for palliative measures. To review the palliative measures in use, to give instances in one line of treatment and to describe a method within the scope of the general practitioner is the main object of this paper.

THE DIAGNOSIS OF CANCER.

1. Test of Salomon and Saxl. (a) This test is based on the presence of an increase in the urine of oxyproteic acid.

Results: 500 cases were treated, malignant and non-malignant, and the authors report 70 per cent. of positive reactions in all the carcinoma cases, and nearly all the non-malignant cases gave a negative result. The reaction was found positive also in the urine of practically all pregnant women and in a few cases of hepatic cirrhosis and abscess and splenic tumor. Other experimenters have found this test to be of less value. The technique of this test is very complicated. Further investigation may prove this test to be of value.

2. Test of Salomon, Saxl and Falk. (b) This test is based on the presence of an increase of polypeptides in the urine of carcinoma patients. This increase is found to be parallel to the increase of oxyproteic acid of the first test. Results: Approximately the same as in the test of Salomon and Saxl.

(3) Methylene Blue Test. (c) Mix a few drops of Loeffler's Methylene Blue solution with a test tube of fresh urine; have also a control with a known normal urine; let stand for 24 hours. The urine of the carcinoma patient should be decolorized except in the upper part of the tube in contact with air. If the blue color does not disappear in the deeper portions of the urine the reaction is negative. Results: The authors claim a positive reaction only in well developed cases of malignancy. Rheumatism, nephritis and meningitis give this discoloration in a minor degree, but these conditions can be differentiated clinically.

4. Colloid Nitrogen Test. (d) This test is based on a comparison of total nitrogen content of the urine with the total quantity of nitrogen precipitable by absolute alcohol, *i.e.*, colloid nitrogen. This colloid nitrogen in the normal urine averages $3\frac{1}{2}$ per cent. of total nitrogen, whereas in the urine of carcinoma patients it rises to $7\frac{1}{2}$ to 8 per cent. Results: It is found that tuberculosis and liver disease give this same result, but it is never found in healthy individuals, and it disappears from the urine of cancer patients after removal of the tumor. Caforio (e) confirms the originator's claims for the test and adds that it is distinct and fairly constant even in the early stages of tumor formation, and believes this test to be of value in diagnosis. He reports 50 cases.

5. Meiostagmine Reaction. This is a serological test, and is one of the few out of a large number that appears to be of some value. It is based on the theory that a true immunity reaction occurs in cancer as in bacterial infections. The test

itself depends on the fact that when antigen and antibody are brought together a reduction in the surface tension of the mixture takes place. Results: Monakow (*f*), with 234 known cases of cancer, gave 89 per cent. positive results, and in 233 cases without tumor obtained 99 per cent. negative results. Stammler (*g*) with 120 known cases of cancer obtained 73 per cent. positive results, and in 220 cases of other diseases got 20 per cent. of positive results. These latter occurred chiefly in cases of acute fever and in all cases of enlarged prostate. He considers the reaction a valuable aid in connection with the clinical picture, but by no means an ideal diagnostic agent.

6. Cell reaction of Freund and Kaminer. (*h*) This is a serological test. It was shown by the authors that serum from normal individuals will destroy cancer cells, whereas the serum of cancer patients will not. Results: Seventeen cases examined show a positive cell destruction by non-carcinomatous sera in 15 cases and a negative result in 15 out of 17 cases of carcinomatous sera. Monakow failed to confirm these good results, as did also Kraus, Graff and Rauzi. They consider it of some value in supplementing the clinical picture, but in no wise conclusive, and state that the Meistagmine reaction is in some ways more reliable.

7. Antiferment Reaction. Pinkuss (*i*) considers this of real value as a diagnostic and prognostic measure in cancer. It consists in mixing one platinum loopful of blood serum with one, two, three, etc., loopfuls of a one per cent. trypsin solution and spreading the mixture on a Loeffler blood serum plate. Normal blood serum should prevent three times its amount of the trypsin solution from liquifying the surface of the Loeffler plate. Pinkuss reports that 98 cases in which carcinoma was subsequently found showed the antitrypsin index raised in all but six. He believes that the antitrypsin reaction is of great value as an aid to carcinoma diagnosis, and that it is of prognostic value also, since if it remains high after operation it indicates the case is not cured. It is also found that where recurrences are suspected the index rose or remained low according to whether or not there was a real recurrence or a metastasis. This test is easier to perform than the other serological tests. However, its main disadvantage lies in the fact that purulent foci, pneumonia, exophthalmic goitre, pernicious anaemia, icterus, uraemia and nephritis also show the

raised antitrypsin index, but, of course, these will differ clinically.

The foregoing are tests based on urine, blood serum and cell reaction and represent those most worthy of note, and yet, to sum up the results, there is not one to be relied upon as of true diagnostic value in early cases of cancer. The results in surgical treatment, of course, depend almost altogether upon the time of diagnosis and how soon the case can be operated upon, and so long as the operative treatment of cancer offers the best chance of cure, so long will it be necessary to discover the growth at as early a period as possible. In order to accomplish this end the research laboratories over the world are working on the subject of cancer, its cause, diagnosis and cure, but with as yet no positive results. The education of the public as introduced by Winter (*j*) in 1898 in Eastern Prussia and continued up to the present has an evident effect, but such an effect is only temporary, and the education of the public, midwives and physicians should be constantly kept up. A menace to the furtherance of this project is the advertisement of the quack cancer cure, artfully worded and advertised in the columns of our daily papers. The unsuspecting woman is fascinated by seeing her symptoms so vividly described and she is tempted to try the fake nostrum until her condition is an inoperable one.

STATISTICS IN THE SURGICAL TREATMENT OF CANCER.

In order that there might be a common basis for the consideration of the different types of operation Winter has devised the following headings for each operation: (*a*) Primary Mortality; (*b*) Percentage of Operability; (*c*) Permanent Results after five years; (*d*) Percentage of absolute cures. In a masterly article by John G. Clark (*k*), showing the results in 2,765 operations, there was a primary mortality of 19.45 per cent. The percentage of operability differed greatly in European and American operators: European, 65.17 per cent.; American, 35 per cent. Of the operated cases, the permanent results after five years are 40.72 per cent. for European operators, as against 8.39 per cent. for American. The absolute cures in all cases applying for treatment alive and well after two to six and one-half years are: European, 21 per cent.; American, about 1 per cent.

CANCER OF THE UTERUS

5

STATISTICS ON THE INCREASE OF CANCER.

That there is a constant and considerable increase in the number of people afflicted with cancer in all civilized countries can be readily appreciated by the following summary:

Death rate of cancer per 100,000 population.

	1860	1865	1870	1875	1880	1885	1890	1895	1900	1901	1902	1903	1904	1905	1906	1907	1908
Australia	19	..	25	..	32	..	45	..	57	..	..	..	..	..	..	..	..
Indiana.....	47	44	47	49	50	55	54	57	..
New Zealand.....	64	..	..	..	..	73	..	..	..
New York	68.5	69	66	69	72	73	74	77	..
28 largest United States Cities	49	..	59	..	..	..	..	..	..	..	77	..
England.....	21	23	27	31	36	43	52	59	67	69	70	74	74	76	79	78	81
Berlin.....	55	65	75	85	..	..	..	..	..	..	..	..
London.....	42	..	48	..	55	..	68	..	85	..	..	..	92	..	..	..	..
Massachusetts	83	82	87	85	86	93	91	93	..
Vermont.....	81	70	69	94	87	84	85	99	..
Boston.....	91	89	87	93	96	107	100	105	..
Providence.....	81	97	97	94	109	..	..	..
France.....	76	91	100	106	..	..	..	..	..	..	..	..
Paris.....	..	84	91	..	94	..	108	..	120	..	..	..	..	..	..	..	..
Denmark.....	130	..
Switzerland.....	114	..	132	..	..	..	..	..	..	..	..
Holland and Belgium.....	..	71	..	104	..	..	..	122	..	..	..	..	..	..	..	148	..
San Francisco	124	115	128	125	134	145	..	..	..

The record of the Canada Life Assurance Company for the last six years is as follows:

Year.	Death due to Cancer.	Total Death.	Percentage.
1907	12	476	2.73
1908	17	491	3.46
1909	18	470	3.83
1910	17	437	3.89
1911	15	414	4.34
1912 (Nov. 1st)	18	389	4.62

It will be seen that every column shows an increase. The actual figures speak louder than do these percentage columns. In the last six years in England and Wales 170,000 persons died of cancer; of these 104,000 were females, and 22,680 had cancer of the uterus. In the States, in 1906, in the cancer registration area, there were 29,020 deaths; in 1907, 30,514 deaths; and in 1908, 33,465 deaths. In the whole of the States the estimated deaths from cancer in 1907 number 63,508. No more reliable statistics can be had than those furnished by old life insurance companies. Wm. B. Coley (*l*) has shown that in the records of the German Life Assurance

Company there are 11.4 per cent. of total male deaths and 12.9 per cent. of total female deaths due to cancer. In England one man in eleven and one woman in eight, of those living at thirty-five years of age, die of cancer. There are 100 deaths due to cancer in women to every 94 due to tuberculosis, and on the whole, cancer is fast overhauling tuberculosis in all its forms. In the States from 1851 to 1860, per 100,000 of population, cancer showed 31.7 and tuberculosis 348.3. From 1891 to 1900 cancer showed 75.4 and tuberculosis 201.

Attempts to explain away this increase as an apparent increase and not a real one are far from convincing. The population of England doubled between 1850 and 1905, but the cancer mortality increased six times. The actual death rate of cancer is far above the known death rate, for out of respect to the family many deaths are filed as due to some secondary cause of death when in reality cancer is the primary cause.

In the face of such facts regarding the diagnosis of cancer and the results of surgical treatment it is needless to state there is an immense field for palliative measures. The present death rate of cancer is appalling even without any further increase.

NON-OPERATIVE TREATMENT OF CANCER.

Paralleling the attempts to discover means of diagnosing cancer in its earlier stages is an activity shown to discover modes of treatment which will enlarge and augment the efficacy of surgical measures and also be of value in inoperable cases. The most outstanding of these modes of treatment are as follows:

1. Ascitic Fluid. Risley (*m*) treated 65 cases, all of which were in an inoperable state, with injections of ascitic fluid from cancerous patients averaging 15 cc. to an injection. Results: In several of the patients pain was abolished; in others, sloughing of cancerous tissue resulted with formation of more healthy granulations; cessation of hemorrhage was seen in several cases of uterine cancer; a retardation of growth of tumor resulted in the majority of cases for several months, but in some cases an increase in the rate of growth of tumor was seen. In no case did shrinkage of growth take place. Risley concludes that by this treatment great symptomatic relief can be obtained in the majority of cases, but no permanent effect is obtained either in preventing or in checking the growth of cancer or in permanently benefiting the patient.

2. Emulsion of Tumor Cells. Risley has also injected an emulsion of the living cancer cells of the patient himself, obtained by grinding the tumor to a pulp in sterile salt solution. Results: An increase in rate of growth of cancer and abscess formation. The method was concluded to be useless and even dangerous.

3. Antimerism. This is a vaccine originated by Schmidt (*n*). He believed cancer to be due to infection by a parasite of the class Mycetozoa, with its reproductive period in a fungus "*Mucor Racemosus*" acting as its intermediate host. Since the parasite would lose its virulence in the saprophytic form a culture for the production of tumors experimentally or of a vaccine can be obtained only by growing the reproductive form with its intermediate host, the killed product of this culture forms the antimerism used by Schmidt. The treatment is, therefore, based on the principle of active immunization, having for its purpose the establishment of immunity without any local reaction. It is thought, therefore, to be of great use as a protective against the occurrence of carcinoma, hence the author believes it will be useful in preventing recurrences. Schmidt says he has seen no recurrences where it was used. Its use is extended to arrest the disease by immunizing the body against its causative agent, for as soon as the proliferative stimulus is gone the tissue becomes inactive, is encapsulated and degenerates. Months later, recurrences will take place owing to the wearing off of the immunity, so that the treatment should be kept up over a year at least. Results: Schmidt reports three cases of inoperative cancer of the cervix; after six weeks' treatment two of the patients were cured and have remained free of recurrences for one and one-half years. The third case, a hopeless one, was reduced to a condition of operability, and was operated on and has remained free of recurrences for a period of two years. Aronsohn (*o*) had a cure in cancer of the larynx in one patient, but it failed in another identical case. The method is of such recent origin that a thorough trial must be given before definite judgment can be made.

4.—*Micrococcus Neoformans* Vaccine (*p*). This is a vaccine made of the dead organisms belonging to the class mycetozoa. Injections were made using from 25 million to 200 million twice weekly. Results: relief of pain, lessening of hæmorrhage and discharge in uterine cancer, disappearance of cachexia, increase in weight and strength and general health. No actual diminution in the size of growth could be seen.

5. Wassermann's Eosin-Selenium Combination. The originator (*q*) has attempted to find some chemical substance which would show a specific affinity for malignant tissue when introduced into the system. It is based on the principle of Ehrlich's Salvarsan work. The salts of tellurium and selenium, in combination with substances of the fluorescein group were found to have this special affinity. The most successful combination was the eosin-selenium combination. Results: After two or three injections into a vein it causes a tumor to soften into a fluctuating cyst, then the liquid contents are absorbed, the sac becomes empty and in ten days all traces of tumor are gone. This is a typical successful case. Many cases however show marked constitutional symptoms due to toxicity from absorption of tumor mass. In a successful case there is no recurrence. This test is only in the experimental stage. It remains for the future to show if these principles can be applied to human therapeutics.

6. Radium. Finzi (*r*) describes the treatment of cancer with radium in a comprehensive article giving his results in 99 cases, all of which were inoperable. He gives the following directions for the use of radium. The alpha and beta rays should be filtered out by enclosing the radium in a lead box. The gamma rays of great penetrating power should be those employed. Large quantities should be used, 200 milligrams (value \$15,000) giving very satisfactory results. The apparatus should be imbedded in the tumor mass, even if operation is necessary to do so. Moullin (*s*) states that ten centigrams (value \$7,500) is the least that should be used to treat malignant tumors successfully. Smaller amounts may be used to treat superficial cancer, but imbedded tumors are only irritated and grow rapidly. Results: Finzi out of 99 cases gave complete local disappearance in 12 cases, very great relief in 20 cases, ten of which he is still treating and it looks as if complete disappearance would take place. There was substantial relief in 42 cases and no improvement in 25. He considers cancer of the body of the uterus one of the best types to treat, but cervical cancer is not so favorable. He does not believe radium offers prospects of a real cure in cancer of the uterus, but it causes a vast improvement in the general condition of the patient, lengthens the life of many of them, and frees them from sufferings of pain, discharge, and hæmorrhage. In this respect it is an able palliative measure. It has been found useful as a prophylactic against recurrences after operations. It has brought inoperable

cases up to a condition of operability. In a few cases it has obviated the necessity of an operation. Aikins and Harrison (*t*) review the use of radium in gynæcological conditions, malignant and otherwise, and the results obtained in three inoperable cases of uterine cancer are most encouraging.

PALLIATIVE TREATMENT.

From the foregoing pages it will be seen that patients with inoperable cancer, who outnumber by far those in an operable state, have derived but little benefit from the advances of our specialty. The number of the methods devised indicates their shortcomings. The older methods of injections of alcohol, turpentine, acetic acid, methylene blue, venom of cobra, the application of calcium carbide and the administration of certain drugs, e.g., thyroid extract, have all been tried and proved failures, but the afflicted patient is still subject to exhausting hæmorrhages, weakening discharges, excruciating pain and the sickening fœtid odor.

More recent methods have been recommended. These may be classified as follows:

1st.—Physical agents, e.g., electricity.

2nd.—Palliative operative measures.

3rd.—Biochemical methods.

1. Electricity: (*a*) Cataphoresis, i.e., the introduction of drugs into the system through the skin by means of ointments or solutions applied by electrode of battery, has been a failure. (*b*) Roentgen Rays gave promising results when first tried but the authorities are satisfied now that they are positively of no avail. (*c*) Fulguration, i.e., the application of a high tension spark by the Oudin current was tried by Czerny but was soon followed by distressing failures.

2. Palliative Operative Measures: (*a*) Excochleation or the removal of all the necrotic and degenerated tissue-laden with saprophytic bacteria followed by the application of some cauterizing agent, viz., the Paquelin canterly, carbolic acid, chloride of zinc and formalin. None of these methods are quite satisfactory, for the charred tissue furnished as a result of the cauterization or the application of chemical agents is an excellent medium for the return of saprophytic growth. (*b*) Artificial occlusion of the vagina and (*c*) Ligation of the hypogastric arteries, also have failed.

3. Biochemical Methods: These methods are as yet in the experimental stage. The reader will find a summary of the recent work in biochemistry under "Non-operative Treatment." It must be said that this line of treatment offers the brightest prospect of relieving humanity of this awful scourge. Electrical and surgical measures have both about reached the limit of efficiency, but the science of biochemistry opens up a large unexplored field that remains for the scientist of the future to reveal.

THE PALLIATIVE TREATMENT OF INOPERABLE CANCER OF THE UTERUS WITH COMMERCIAL ACETONE.

The writer wishes to conclude this article by describing this method of treatment as carried on by him at St. Luke's Hospital, Chicago, and to supplement his remarks with the history of four typical cases. Acetone is a transparent, colorless, mobile and volatile liquid, with an ethereal odor and a pungent taste. It is of the organic class called Ketones and has the graphic formula $\begin{smallmatrix} \text{CH}_3 \\ \text{CH}_3 \end{smallmatrix} > \text{C}=\text{O}$. Owing to its intense hygroscopic qualities tissues shrink and harden in half an hour too hard for the microtome knife. Acetone is not caustic and its effect cannot be explained on the same ground as formalin and other chemicals which we have already described. There is no eschar cast off. The cancer cells probably undergo organization and cicatrize.

The procedure is as follows: The patient is anesthetized and a preliminary curettage or excochleation is done removing all dead and degenerating tissues. This must be done rapidly and carefully. The bleeding from cancerous tissue is more than from the ordinary uterine tissue so the quicker it is done, the better, but on the other hand one must be careful not to open into the peritoneal cavity. The patient is then put in the Trendelenberg position just sufficient to retain the acetone (a six-inch tilt in ordinary cases) and the vulva and lower third of the vaginal mucosa smeared with vaseline. The crater is then dried with cotton sponges and a tubular speculum (Ferguson's answers well) inserted. Into this run about one-half to one ounce of acetone. The anæsthetic can then be interrupted and the patient left in this position about half an hour, after which time the acetone is removed by using dry stick sponges and the cavity then packed with a narrow strip of gauze soaked in acetone. The speculum is then removed and the vagina packed with a cotton tampon to absorb the excess acetone. Acetone on

the skin produces a "cold burny" sensation which can be instantly relieved by washing it off with water. An anæsthetic is required the first time in order to carry out the curettage, all subsequent treatments can be done without anæsthesia or hospital care. Treatments should be given every four days commencing on the fifth day after operation. There is no pain from the application except where the operator allows acetone to touch vulva. Results: Any slight oozing following the curettage is immediately checked. The remote effects are manifested by a reduction of the intense odor, the discharge turns from one of a mucoid character to one of a watery consistency and finally disappears, hæmorrhage also fails to return after this stage. After two or three weeks the walls of the crater become smooth and firm and no friable tissue can be removed. In some cases the preliminary curettage has to be repeated, but this happens only in the occasional case. Needless to say the general condition of patients improves when free of the distressing hæmorrhage, the foul odor and discharge, and many are able to walk out of the hospital, who came in on stretchers. It must be remembered that acetone is not infallible in every case. It will not relieve pain caused by extensions of the cancer to adjoining organs or nerves beyond its reach. Like all other forms of palliative treatment it has its failures, e.g., patients who are already *in extremis* when first seen and the body is simply a covering of skin over bone for the ravages of the disease within. Of course our therapy is merely symptomatic and it must remain so until the true nature of cancer is known. The great difference in cancers, due to structure, and their difference in growth in various individuals are all questions that only go to show how deficient is the treatment of cancer by any one fixed method. Nevertheless acetone, as has been the experience of Gellhorn (*u*) has accomplished more than former methods. It has relieved the loathsome symptoms and restored in a simple and harmless way a large percentage of patients to comparative ease and bodily comfort. Furthermore, its employment is within the scope of any general practitioner wherever he may be located. After the preliminary curettage, the patient may be treated at home or in the physician's office. Radium is at present beyond the purse of the average man and even if it could be had in large centres, the unfortunate patient in the inoperable state could, in all likelihood, not undertake the journey to such a place.

Case I.—Mrs. M., St. Luke's Hospital, Chicago. Record No. 62836 entered the hospital July, 1911, age 44, mother of four children. She gave a history of having consulted a doctor 10 years ago for a growth which she noticed in the lower abdomen. During the last four months this had grown considerably and she had lost about 20 pounds in weight. On admittance her condition was, T. 103, P. 114, R. 24, a large mass was palpable about the size of a five-month pregnant uterus. She had had four profuse hemorrhages, R.B.C. 2,400,000, W.B.C. 18,000, vaginal examination showed a large ulcerating mass on the posterior cervical lip and posterior vaginal wall with extensions slightly to anterior lip and backward into the pararectal tissue. The uterus was fixed and there was thickening in the left parametrium. The growth in the abdomen was diagnosed as a degenerating infected myoma which had lately taken on a malignant change. She was given a ten-minute anaesthesia and the cervical cancer was curetted and given the first treatment with acetone. She rallied after this short operation successfully, and after four weeks of continuous normal saline per rectum, drop method, her temperature and blood were in a condition to remove the degenerating myoma. A supracervical amputation was done in as radical a manner as possible. This proved to be a large degenerating myofibroma. The cancer of the cervix and vagina was seen to have proceeded too far to warrant removal. During these four weeks the patient had been treated every four days with acetone and the surface, where the cancer was, now presented a crater-like appearance extending up into the posterior fornix, the surface being hard and smooth with no discharge. Patient left the hospital nine weeks after admittance, on foot, and was referred to her local doctor, who has treated her once a week with acetone. She called at the hospital several times, and when last seen, Sept. 1912, she was still able to do her work, though complaining a great deal of constipation and pain in her thighs, due no doubt to extension of growth about rectum and posterior nerve cords. She had been free altogether from the discharge and hemorrhages and able to do her daily work and enjoy her life. She looked well and to the writer had still the greater part of a year's life ahead of her.

Case 2.—Mrs. C., St. Luke's Hospital, Chicago, Record No. 63111. Patient entered hospital in July, 1911. On examination presented a large ulcerating mass on the posterior cervical lip with slight fixation of the body of the uterus which

was thought to be inflammatory. A high amputation of cervix was done when it was seen that the growth had extended posteriorly up the rectal wall. Hæmorrhage was profuse, which, after ligation of the larger arteries, was checked almost immediately by the following acetone treatment. She was given an acetone treatment every four days. She left the hospital in five weeks feeling better than she had for a year. The crater was hard and smooth, as in the previous case, and perfectly dry, no foul discharge, no hæmorrhage, and she was able to continue her work. We heard of her once three months later, during which time she had had no treatments. She had a slight discharge and a little hæmorrhage now and then. She was constipated, but apparently the growth had not extended far enough to cause pain. She did not return for further treatments.

Case 3.—Mrs. K., St. Luke's Hospital, Chicago, Record No. 61689. Patient entered hospital in June, 1911. On examination presented a large mass in right iliac region and a large infiltrating cervical cancer involving both lips and both sides of the vagina slightly. She had had several bad hæmorrhages and had the characteristic discharge with fœtid odor. She was cachectic and had lost thirty-five pounds in the last three months. One year previous she had an operation for removal of appendix. Her condition was an inoperable one, for the cancer had no doubt extended up into the right parametrium and had infiltrated the cicatrix of her old incision. The cervical cancer was curetted, which left a cavity about $2\frac{1}{2}$ inches in diameter and $1\frac{1}{2}$ -2 inches deep. She was given an acetone treatment every four days for five weeks, with the same result as in the previous case, i.e., a hard smooth surface, no discharge or hæmorrhage. At the end of this time the patient, who had been kept in ignorance of her condition, became discouraged on account of the pain and bowel disturbances which she had, due to the extension of the growth. Her relatives took her, in order to pacify her, to the County Hospital where she died six weeks later. This was an advanced case, yet the acetone was able to relieve her of the weakening hæmorrhages and the sickening discharge and odor.

The following will illustrate one of those less fortunate cases of a purely uterine cancer, when the patient is *in extremis*. Case 4.—Mrs. E., St. Luke's Hospital, Chicago, Record No. 63703. Patient entered the hospital in Sept., 1911, aged 38. She had profuse hæmorrhages every week for several months. She had the characteristic odor, and discharge which was profuse. She weighed 94 pounds. T, 98, P. 100, R. 22. She had lost over thirty pounds in the last two and one-half

months. She was examined and pronounced a hopeless case. A curettage was done, removing at least one and one-half pints of degenerated material and foetid mucoid discharge. The actual cautery was applied to the cavity which was about four inches deep and over three inches in diameter. The uterus was firmly fixed. She began to bleed again on the second day. An acetone treatment was given which checked the hæmorrhage and the discharge. Patient gained in strength a little, but died in four weeks owing to ravages of internal extension of the disease and a complicating nephritis due to a ureteral blockage. She was, however, free of offensive discharge and weakening hæmorrhages. Her pain was controlled well by aspirin until the last week, when morphia had to be given.

The acetone treatment has been used by such men as George Gellhorn and W. B. Dorsett of St. Louis, F. H. Maier and J. M. Fisher of Philadelphia, so that the writer feels well corroborated in the foregoing remarks.

909 King Street East, Hamilton.

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THE ONTARIO HOSPITALS FOR MENTAL DISEASES*

BY EDWARD RYAN, B.A., M.D.

Superintendent Rockwood Hospital, Kingston; President Ontario Medical Council.

In placing this paper before you to-day I am doing so with the earnest desire of drawing the attention of the profession to a department of medicine which, up to the present time, has not received the consideration its importance demands. Seven years ago the retirement of a number of men connected with the Ontario Hospitals for Mental Diseases necessitated a number of appointments and afforded timely opportunity for a radical change in principle and methods.

It is not my intention to discuss the system then in vogue, nor the practice prevailing up to this period. For the purpose of contrast, however, it is necessary to state there was an entire absence of therapeutic measures. There was no laboratory nor was there any attempt at laboratory work. Original investigation of any kind was entirely absent. Pathology appears to have been entirely ignored. Records of patients were very indifferently kept. In many cases no record could be found beyond the mere entry in a book that the patient was admitted on a certain date and sent to a certain ward. The disturbed patients, acute or chronic, were restrained by drugs, by locked doors and iron bars. There was practically no attempt to diagnose, to treat, to nurse, to cure. No wonder then the disease became chronic or that a useful life was lost.

To the Government charged with this grave responsibility the time seemed opportune for the breaking away from the old methods. The Superintendents were given a perfectly free hand, received every encouragement, and support in their work. To insure the best results, a commission of two superintendents and a member of the Government was sent to visit Europe, and to study the systems in vogue in Germany and other continental centres of advanced educational and scientific work. Since that period no less than three commissions have visited the most advanced State hospitals in the neighboring Republic. In this way those charged with the conduct of the Ontario hospitals were at the very outset given the knowledge, experience and encouragement so essential for the proper discharge of their duties so necessary to make the work a success.

* Read before the Canadian Medical Association.

CLASSIFICATION.

Our first effort was directed to the proper organization of the work in all its departments. The first step necessary was to prepare the method of classification, that each case might be studied along some definite scientific plan. The Kraepelin classification was adopted, with modification, by the conference of Medical Superintendents assembled for this purpose, and psychiatry was launched in the Province of Ontario. In addition to a close analysis of the mental status of each patient, the physical condition of each patient received a careful and methodical examination. Laboratories were established, and the body fluids, stomach contents and excreta were given thorough study. Experienced pathologists were appointed to conduct this, one of the most important, interesting and valuable departments of the hospitals. Indeed nowhere in the Province does pathological work meet with more careful attention or more exhaustive study than in the hospitals for psychiatry. The results of these various examinations and findings are carefully recorded. A modern filing system has been introduced in each hospital so that the mental status, the physical examination and the pathological findings of each patient upon admission are full and complete. This complete investigation of cases, introducing as it does the family history, and the life history of the patient in all its bearings, together with the clinical symptoms led naturally to the demand for therapeutic measures. Could nothing be done to stay the progress of disease, or to relieve the existing conditions?

TRAINING SCHOOL FOR NURSES.

As in all diseases skilled nursing was considered a prerequisite, hence training schools for nurses were established in connection with each hospital. A very thorough curriculum is in force, and the course given will compare favorably with that of the average General Hospital. Indeed our nurses have invariably made good in hospital positions, and in general nursing. In Rockwood School, which is probably the most advanced, I am not aware of a single failure. The staff is sufficiently large that an efficient service is maintained by night as well as by day, an important consideration. So satisfactory has the nursing system proven that nurses have been placed in charge of the male patients in both the acute and the chronic wards, with the most happy results. In four years' experience we have encountered no difficulty. It is our intention to extend this service till every ward in the hospital will be under control of trained nurses.

TREATMENT.

As the various toxæmias, due often to depressing conditions and improper diet, are contributing features in many cases of insanity, treatment is directed to relieve these conditions. The treatment, so far as our knowledge of psychiatry, is therefore the rest treatment, with diet and nursing, mainly indeed the hygienic dietetic. I think it is now generally admitted this principle will apply to the treatment of diseases in general. To meet this end the hospitals are fully equipped with continuous baths the use of which produce the elimination of toxins, soothes the excited nervous conditions, regulates circulation and at the same time acts as a stimulant. The same may be said of the hot air cabinets treatment, combining the idea of the Turkish bath. All the accessories of these measures are fully employed, such as the hot pack, alcohol rubs and massage. A regular hospital chart, with bedside notes is kept for each patient for filing purposes and subsequent study. Electrotherapy is also considered a valuable adjunct, and the hospitals are fully equipped for this line of medical treatment. A marked advance has been made in the dietetic conditions. The best food products are procured. Indeed the dietary is left entirely in the hands of the medical staff. Expert dietitians, graduates of the most advanced dietetic schools, have been employed for organizing and training purposes. Separate diet kitchens have been established, that special diet may be at the disposal of the patients by day and by night. This advance has been a most valuable acquisition to the efficiency of the hospital. It has at the same time been of extreme service in the training of our nurses. At Rockwood we have never hesitated to secure special diet of any form, or at any cost, where such was deemed necessary in the interest of our patients.

RESULTS.

The results of this advanced work are most satisfactory and encouraging. In 1900 there were 587 patients on the register of Rockwood Hospital; to-day, though the population of the district has increased, there are 562. In 1900 twenty-six patients were discharged from Rockwood Hospital; in 1911 there were seventy-two discharges, an increase of 276 per cent. In 1900 the admissions were 71. In 1911 the admissions were 108. The discharge rate has been affected by the increased number of patients, who under conditions and by our advice are now treated at home, and fortunately never reach our hospital. In every element of the hospital life conditions are materially altered. Restraint of

every form has entirely disappeared. The jackets were burnt long ago. Drugs are now rarely used, and if at all for purely therapeutic purposes. The bars are going from the window and locks from the door. The only restraint, in fact, is the kindly, soothing presence of a firm, tactful and intelligent nurse. The noise, excitement and turmoil have passed to the calm quietness of the sick room. This great change in hospital methods with the satisfactory results as indicated has brought a corresponding change in the attitude of the public in respect to the hospital. There is no longer the dread or hesitancy with respect to the hospital on the part either of the public or of the profession. I can best express this change in the words of a prominent physician: "The asylum was the last place to send a patient, but Rockwood Hospital is the first place and the only." In this way we are getting a better class of patients and more satisfactory patients are seeking treatment in the early and curable stage of disease. We are breaking away from the old method of admission, and opening our doors to the sick seeking relief. With us certificates are no longer exacted. Voluntary patients are received, treated and discharged. The profession are advised to send their acute patients at once. Commitment papers when necessary may follow. We have established the principle of the "open door."

EDUCATIONAL LIFE OF HOSPITALS.

One side of the work, which stands out quite unique on this continent, is the intimate association of the hospital with the University work, and with the education of the medical students in psychiatry. At Rockwood Hospital this is a marked feature. During the college term one day a week is set apart solely for clinical work. Besides this general day, special cases of interest are immediately brought before the students in special clinics. Post mortem and pathological work receive careful attention, and the students are thus taught the cause, symptoms, course, termination and pathological results. The whole course of the disease is thus revealed to the student. Before a body of medical men I need not dwell on the importance of such an educational awakening, or the effect it must have on the future. This clinic, need I add, is greatly appreciated by the students and has a most stimulating effect on the nurses and on the hospital physicians. In this way also we have succeeded in enlisting the sympathy and co-operation of the profession, in what at present is one of the most important departments of medicine. The knowledge thus acquired enables the physician to recognize the early symptoms of disease and to apply intelligent, scientific and kindly treat-

ment. From his personal observation, the physician educated under these conditions is fully cognizant of the beneficial results of hospital treatment, and if the case demands, he early advises hospital treatment. It is now quite obvious that in this district, at all events, the professional and the public mind is undergoing an entire change respecting the hospital. We are led by results to carry on this educational work far beyond our hospital doors. Preventive medicine is now and will be the goal at which all interested should aim. There is no reason why the diseases of mind should not be prevented as well as diseases of the body, why psychical disaster should not be averted as well as physical. With a widespread knowledge as to the cause of psychical disturbances and with an ordinary medical training as to early symptoms we feel certain that numberless cases can be averted, and also that early recognition will result in early cure. Our experience has taught us how false the view that insanity cannot be both prevented and cured. I make bold to say our results are quite as satisfactory as those met with in any other form of disease. So convinced are we as to the soundness of this position, we are organizing an educational campaign throughout the Rockwood district. Already we have had the pleasure of appearing before several of the medical bodies, and we shall by kind permission, cover the whole territory in an earnest endeavor to enlist the sympathy and intelligent co-operation of the profession and the public, in the prevention and care of insanity. This will be the public or extra-mural course of Rockwood Hospital, in combatting the inroads of this dread disease. This is an age of preventive medicine, and quite properly so. Then let prevention be applied to psychiatry as well as to plague. The science of eugenics should be devoted to the well-being of the human race and to the protection of the race from all ills whether those of the mind or of the body. We are devoting much time and energy, and literature good and bad, to the question of heredity, to the marriage of human misfits, and to the degeneration in store for us in the days to come. Let us rather apply our efforts to the plain demands of our own day, and posterity will be most thankful.

ECONOMIC REORGANIZATION.

I must refer to another important advance, namely, the economic reorganization and development of the past seven years. The system of accounting has been perfected, supplies are bought by tender. Work, wherever possible, is done under contract system, and the entire expenditure safeguarded in a manner that will compare favorably with the best-managed business

institutions of the land. The result of this well-recognized economic administration is, of course, to leave a larger fund available for necessary and timely development. After a large expenditure, covering many necessary advances, we at Rockwood can safely affirm that not one dollar has gone astray or has been mispent.

ELIMINATION OF POLITICS.

The past seven years have gradually witnessed the elimination of political control and interference. The last three appointments to the position of Medical Superintendent were promotions from the staff. The physicians thus advanced were first appointed by the late Government. In the selection and promotion of the nursing staff and the staff of attendants, the political side is entirely eliminated. Thus in so far as the medical direction is concerned, and this is by far the most important, merit entirely governs. No other element is for a moment considered. At Rockwood Hospital, in seven years, no appointment of any character of any kind has been made without the consent of the Medical Supervisor. No board of governors of any hospital would give to its staff a freer hand. Thus we look back upon seven useful, if arduous, years, and seven years of marked scientific, educational, economic and administrative advance. I think I am safe in saying in no corresponding period were such marked advances made in the life of the general hospital or in any other department of medical science.

LOOKING FORWARD.

And looking forward, we see in store for us a field of useful and beneficent labor, especially when this be directed to the clinical work, to the study of the causation and the clinical life of individual cases, and to the careful classification of the knowledge thus acquired. We see opening before us a wide field of research and of experimental work, a field almost untouched by the cultivating hand of the original laborer in the wide field of medicine. We see before us a vast region in the new world of eugenics where the knowledge of the hospital can be brought to bear on the life of the home, where the experienced hand can guide the mental barque through dangerous waters, where mental stress and mental affection will be viewed as something to be studied, directed, relieved and not to be dreaded or shunned. The State can contribute of its coffers to no cause more prolific of good results than that which returns so many to mental enjoyment and to economic production. There is in the whole field of science

nothing more entrancingly beautiful than the study of the psychoses and the physical inter-relations depending thereon. Nor can the humanitarian confer any benefit to his race more lasting or more prized than to succor the home from that which brings to it the greatest of all sorrows.

I must not close this short reference without paying my tribute to the man who for us in Ontario made this work possible. The Hon. W. J. Hanna led the way in this great departure, and by his wisdom, his courage and his successful labors in this and kindred fields, has made a name that will be forever cherished "in the grateful hearts of a grateful country."

APPENDICITIS

J. B. FRASER, M.D., C.M., TORONTO.

The question of medical versus surgical treatment of appendicitis is not settled yet, at present surgical treatment leads—ultimately medical treatment will win.

One main reason for the present position is that physicians have been apathetic, diffident, and negligent in their defense of non-surgical treatment—they have not vigorously opposed the insistent and growing demand of the surgeon for that class of cases, and have said little about the danger of operations.

Some years ago, surgeons were satisfied with odd cases, to-day they ask for all cases, claiming it is a surgical disease, (to-morrow universal appendicectomy?) and they have advocated their views with such ability, vigor and persistence, that many embryo M.D.'s, and thousands of citizens believe there is only one safe side to the question, viz., operate.

Fortunately, nature makes few mistakes, and an anatomical examination shows that nature is prepared to cope with the disease quite efficiently. The wall of the appendix has three layers: 1st, inner—mucous; soft, friable, containing many closed follicles and columnar cells. 2nd, middle—muscular; contains longitudinal fibres, finer than the first. 3rd, outer—serous; tough, fibrous and resistant. During inflammation the mucous and muscular coats break down first, thus allowing the pus to pass into the intestine instead of the abdominal cavity.

Another natural safeguard is Gerlach's valve—this checks the entrance of foreign matter, but allows discharges from the appendix into the intestine.

A third safeguard is age; as a rule after thirty years of age the follicles of the mucous membrane gradually die, partial involution follows and in time only practically a cord remains.

Then the physician can assist nature by advising:

1. *Rest*; preferably in bed.
2. *Food*. Giving sterilized liquid food—"a sterile bowel lessens danger"—also water if asked for.
3. *Lavage*; (occasional) of lower bowel; more especially if rupture occurs.
4. Gently stimulating endosmotic action, this drains a portion of the inflammatory exudate into the intestine, where it is quite harmless.
5. Using standard remedies for pain, fever, nausea, etc., as needed.

The above outline of treatment has given good results, but many physicians have equally good results with their own lines of treatment.

During 1906 in 16 cities of Ontario, there were 75 fatal cases of *appendicitis and typhlitis; in 1910, there were 80 cases; this shows that surgical treatment has not lessened the death roll.

The surgeon claims that the percentage of deaths following operation is lessening, we believe it; but the increased number of operations more than counterbalance the former; for example, if in a city of 50,000 there are 100 operations with six deaths, and next year 200 operations with only 10 deaths, it means 1 per cent. less per 100 operations; but four more deaths than in the previous year. The surgeon may ask: What if the appendix ruptures? We reply that rupture may occur and leave no ill effects if proper care is used, as the following cases show; and these cases have been coupled with parallel surgical cases to show that medical treatment is effective.

(a) A Toronto contractor and an esteemed judge had appendicitis the same day, both were in the prime of life, both previously healthy, both had good vitality, both able to employ good attendants, and both had hope.

*Our records do not show the number of cases of uncomplicated appendicitis.

The contractor was not operated upon, rupture of the appendix was expected, and took place, the pus passed per rectum; in three weeks he was at work. The judge was operated upon, and is not.

(b) A married woman and a well-known Toronto doctor had appendicitis, both were physically below par, both lacked vitality, both had other conditions or complications that increased the danger. The woman was not operated upon, the case was unsatisfactory and tedious, on account of the pus, but eventually she made a good recovery and is well now. The doctor was operated upon and passed away.

(c) Miss ——, and a valued public school teacher, were ill with appendicitis, as far as I can tell their chances were even. Miss —— was not operated upon, even if pus passed her rectum; in four weeks she was well. The teacher was operated upon and is no more.

Question.—Would the above cases have lived with medical treatment? One cannot answer yes or no, as some deaths occur under both forms of treatment; but comparing results in ordinary cases of appendicitis, we believe non-surgical treatment is superior in three respects, viz.:

1st.—Less danger for patient.

2nd.—Less worry for the household.

3rd.—Less expense for the family.

Surgeon, go thou and do likewise.

Editorials.

THE TREATMENT OF CANCER

The medical profession and the laity may be considered to be equally interested in the treatment of cancer. There seems to be, especially in the minds of the laity, a greater dread of cancer than of tuberculosis, although the latter has claimed more victims in the past and up to the present time. It happens, however, that the deaths from cancer have been increasing to an alarming extent, while the deaths from tuberculosis have been decreasing to a fairly satisfactory extent during the last decade.

The statement is frequently made that surgical procedure is the only treatment for malignant disease. Nevertheless in advising operation one must take a very broad view of the situation as it is going to affect the patient, and the question as to the operability or non-operability of the condition should be most carefully considered. Only too frequently one hears of apparently brilliant operative procedures carried out where the disease is so extensive that it can be clearly realized recurrence will take place, and where the severe shock results in the patient not rallying from the operation. In such cases as these we believe life could frequently be prolonged and the patient and friends subjected to less pain, worry and anxiety by non-operative measures.

In this connection we would refer our readers to the admirable paper by Dr. W. O. Stevenson on "The Treatment of Inoperable Cancer of the Uterus," which appears in this issue. Dr. Stevenson reviews there the various non-operative procedures such as Radium-Therapy, X-Ray, Fulguration, Acetone, etc.,

which are of undoubted service in this condition, where to have attempted operation would have meant disaster. Patients have lived for years in fair comfort under such methods, after being told by men who should know better that there was nothing to be done for them.

A committee was formed at the Annual Meeting of the Clinical Surgeons of North America held in New York in November, to take steps to educate the public to be on the watch for the early signs of malignancy. This is a step in the right direction. Innocent growths frequently become malignant as time goes on. On the skin one meets with moles, warts, patches of keratosis or seborrhœic areas, which should receive early treatment from the dermatologist, and it is in these conditions that the radio-active substances such as radium mesothorium, thorium, etc., play a most important part.

The greatest need, however, is the education of women in the early signs of malignancy of the breast and uterus, and to teach them to consult their physician at once on the appearance of suspicious symptoms. It is sad to meet patients who, through mistaken ideas have allowed malignant conditions to advance to such an extent that one can only hope to alleviate but not cure.

THE ONTARIO HOSPITALS FOR MENTAL DISEASES

We are publishing in this issue an exceedingly interesting article on the Ontario Hospitals for Mental Diseases, read before the Canadian Medical Association by Dr. Edward Ryan, Superintendent of Rockwood Hospital, Kingston. We think that only a limited number of physicians have any intelligent

conception of the wonderful improvements that have taken place in the treatment of those afflicted with mental diseases during the last seven years.

Prior to 1905 therapeutic measures, laboratory work, research work and pathological investigations were almost unknown in what were formerly called the asylums for insane. The records of patients were indifferently kept, or not kept at all. A certain big man, Hanna by name, decided there must be a lot of radical changes in these public institutions. His great work in connection with prison reform, and various matters pertaining to public health is fairly well known, but his admirable work in connection with the hospitals is not so generally recognized.

A commission composed of two hospital superintendents and a member of the Government was sent to Europe to study the systems in vogue in Great Britain, Germany and other countries. Since that time three commissions have visited the United States to examine the systems of the best hospitals in that country.

The Kraepelin classification with some modifications was adopted in all the hospitals. Patients are now carefully examined both as to their mental and physical conditions; laboratories have been established; body fluids, stomach contents, excreta, etc., are examined. Pathological experts have been appointed and are encouraged to work. Complete records are kept. Proper treatment in the broadest sense of the words is carried out. Training schools for nurses have been established in all the hospitals. What are the general results? Restraint of every kind has almost entirely disappeared. The straight jackets were burned long ago. Drugs are now used only for therapeutic purposes. The bars are gone

from the windows and the locks from the doors. The proportion of cures in ten years has increased by nearly 300 per cent. People are fast losing their dread of these hospitals. Physicians are sending their patients early in the acute stages. Many voluntary patients are received, treated and discharged. In short, the results are in all respects admirable.

THE MEDICAL PROTECTIVE ASSOCIATION

We have often referred to the merits of the Canadian Medical Protective Association, and we have always felt that we could not say too much in its favor. The members of the medical profession in Canada are greatly indebted to two men—Dr. T. J. Roddick, of Montreal, and Dr. R. W. Powell, of Ottawa. So far as this article is concerned, we are chiefly interested in the latter. Dr. Powell's continuous and indefatigable work in connection with the organization and governance of the Medical Protective Association during the last eleven years commands our highest praise.

We learn from his report, presented at the meeting in Edmonton, that at that time the Association, after paying all its debts, had a cash balance on hand of \$8,650.

We offer no apology for again publishing the first clause of the report of the Committee on Medical Defence, which was presented at the Annual Meeting of the Canadian Medical Association at Winnipeg, in August, 1911. "We believe it to be in the interests of the medical profession in Canada that an association should be formed by this body for the protection of those members of the profession who become mem-

bers of this association, and who are unjustly prosecuted for malpractice.”

The Association has done a wondrous amount of good work. It has helped a great many worthy men, against whom unjust and harassing suits for malpractice have been instituted. It has, in the second place, prevented a large (of course unknown) number of such suits. The moral effect of a strong organization like this, with a good fund of money at its back, cannot be fully realized. One thing we who have practised medicine twenty years or more do know: before the organization of this Association vexatious claims for damages for malpractice were becoming more frequent from year to year, whilst since its formation they have been growing less frequent from year to year.

THE MENTAL DEFICIENCY BILL OF GREAT BRITAIN

One of the consequences of the recent check to the Government in the House of Commons, Great Britain, in connection with the Home Rule Bill, is the curtailment of the legislative programme in certain directions. Probably the most important and the most unfortunate result is the interference with the passage of the Mental Deficiency Bill. It appears that a small but determined opposition to this bill had the power, by dilatory tactics, to prolong the committee stage indefinitely. We are told by a writer in *The Spectator*, Nov. 23rd, that the decision of the Cabinet not to proceed in the present session with the Mental Deficiency Bill is well described by *The Times* as a social misfortune. We quote as follows from the same issue of *The Spectator*: “The facts and figures on which the measure is based are appalling and

admit of no dispute; but the abandonment of the bill is something more than a social misfortune; it is nothing short of a political scandal. The reason assigned—the loss of time caused by the Home Rule finance muddle—fails to convince strong Liberals like the Bishop of Birmingham, and only shows that party emergencies are to be allowed to override the present national need.”

We are pleased to be able to announce that two strong Committees, one acting under the authority of the Board of Education, and the other acting under the authority of a strong association composed of representatives from various municipalities in all parts of Ontario, are continuing good work for the feeble-minded of the Province. We have every reason to hope that excellent results will soon follow from the admirable work which they have done and are continuing to do at the present time.

A joint meeting of these two committees was held in Toronto, December 11th. It was decided to interview the Provincial Secretary at once and endeavor to get certain legislation during the coming session of the Ontario Parliament. The Government will be asked to build custodial institutions for the care of the mentally defective children, with the understanding that the different municipalities throughout the Province shall provide for their maintenance.

THE LISTER MEMORIAL

As stated in a previous issue the Presidents of the Royal College of Surgeons and the Royal Society called a meeting for the purpose of forming a committee with the object of establishing a memorial to Lord Lister. The meeting of this committee was held

in the Mansion House under the Presidency of the Lord Mayor, Sir Thomas Crosby, M.D., October 23rd. We learn from the *British Medical Journal* that Lord Haldane delivered a remarkable speech at that meeting. He said that Lister's discoveries had been almost as fruitful in turning men's minds to the study of micro-organisms in the territory of medicine as they were in his own province of surgery. The discoveries that had been made in pathology, in tropical disorders and all other disorders caused by micro-organisms were due to the new zeal stimulated by the application of Listerian methods to the cognate study of medicine. The man who did that effected a revolution perhaps more definite, more precise, more far-reaching than anything done even by Darwin and Kelvin. It was fitting, Lord Haldane added, that the Government should be represented at such a meeting; for there was no part of the community that was not benefited by Lister's discoveries. All were his debtors, the humblest and the greatest.

The Executive Committee decided that the most suitable memorial would be one comprising (1) a tablet with medallion and inscription in Westminster Abbey; (2) the erection of a monument in a public place in London; (3) the establishment of an International Lister Memorial Fund for the advance of surgery.

A large sum of money will be required, and it is proposed to form committees in various parts of Great Britain, in the Over-Sea portions of the Empire and in foreign countries to take the necessary steps to co-ordinate the collection of subscriptions. Already a number of liberal donations have been received, namely, \$2,500 from Lord Iveagh, \$1,250 from Mr. Otto Beit, \$500 from each of the following: Lord

Northcliffe, Sir William Watson Cheyne, the Duke of Bedford and Sir Ernest Cassel. In addition to these the *Journal* was able to announce that twenty-five other persons had subscribed liberally. In addition to this memorial a suggestion has been made in Glasgow that one of the wards of the Royal Infirmary in that city, where Lord Lister's antiseptic methods were first put into practice, should be preserved as a museum in which objects of interest associated with him and his discoveries may be exhibited. We understand that the Directors of the Infirmary have given their sanction to this scheme.

THE LATE LORD MAYOR OF LONDON

It will be remembered that the Lord Mayor of London during the last year was a physician, Sir Thomas Boor Crosby, M.D. Shortly before resigning office he entertained in the Mansion House a large number of physicians and surgeons to meet the Presidents of the Royal Colleges of Physicians and Surgeons. The Lord Mayor in proposing the principal toast of the evening referred to his long and active connection with the medical profession, and to the efforts he had made during his year of office to systematize and extend the use of special hospitals for teaching purposes. He made some reference also to the insurance schemes, and insisted that the medical profession deserved generous treatment from the State, and that by so acting the State would reap a rich reward. Sir Thomas Barlow and Sir Rickman Godlee responded to the toast. Sir Thomas also made some reference to the proposed Insurance Act. He considered that a State medical service as proposed was contrary to the genius of the country and must injure the family doctor.

He also thought the maintenance of the voluntary hospital system, though some State subsidy might at the same time become necessary, should afford in the future as in the past the greatest possible guarantees for the best treatment of patients.

WATER SUPPLY OF TORONTO

In the Bulletin issued by the Department of Health for November, attention was drawn to the necessity for stopping the present enormous waste of water in the city. The city is endeavouring to provide a pure and sufficient supply of water. During the month of October when there was not a hose in use, and when rains were frequent the waste of water was not diminished. The health department thinks it may be necessary to put on a large number of inspectors to determine in what houses the leaks exist, and urge the owners to have them stopped. The opinion is expressed that when the citizens of Toronto have their attention drawn to the matter, they will be public spirited enough to look after this waste offence without resorting to such inspection. Unless concerted action is taken by the citizens to cut down the waste of water the department will be compelled to go back to a mixture of filtered and unfiltered water. The citizens must decide whether they prefer clear filtered water or unfiltered possibly turbid water, to which must be added large amounts of chlorine to make it safe. We do not know what means should be taken to stop this waste which has been going on for over 25 years, notwithstanding the fact that the citizens have been constantly warned as to the condition, and have been requested by the authorities to look after their taps.



ADAM H. WRIGHT, B.A., M.D., M.R.C.S. (Eng.)

Emeritus Professor of Obstetrics
University of Toronto

BANQUET TO DR. ADAM H. WRIGHT

The friends and associates of Dr. Adam H. Wright tendered him a banquet at the York Club on the evening of November 29th, on the occasion of his retirement from the Chair of Obstetrics in the University of Toronto.

Dr. F. N. Beemer, who was a fellow-graduate with the chief guest of the evening, occupied the chair.

The invited guests were:

Sir William Mulock, Sir Glenholme Falconbridge, Col. Albert E. Gooderham, President R. A. Falconer, James Loudon, LL.D., Professor Alfred Baker, Mr. John King, K.C., Professor W. H. Ellis, Professor W. H. Van der Smissen, Dr. B. P. Watson, Mr. G. H. Gooderham, M.P.P. The hosts were: Drs. N. H. Beemer, I. H. Cameron, A. A. MacDonald, E. E. King, W. H. B. Aikins, C. K. Clarke, J. A. Temple, A. McPhedran, F. LeM. Grasett, R. A. Reeve, A. Primrose, H. C. Seadding, W. T. Parry, W. B. Hendry, H. J. Hamilton, B. L. Riordan, A. H. Garratt, H. C. Parsons, T. B. MacDonald, J. E. Elliott, J. H. McConnell, F. Fenton, T. B. Richardson, W. A. Young, King-Smith, J. S. Graham, J. W. S. McCullough, Chas. O'Reilly, J. M. Cotton, O. A. McNichol, A. B. Wright, F. W. Marlow, H. B. Anderson, C. R. Cuthbertson, R. D. Rudolf, A. M. Baines, J. T. Fotheringham, W. P. Caven, Bruce-Smith, W. Goldie, J. A. Kinnear, C. J. Wagner, J. McCallum, S. Johnston, Geo. Porter, L. G. Parker, F. A. Cleland, W. B. Thistle, K. C. McIlwraith, G. Chambers, G. S. Ryerson, R. B. Nevitt, Chas. Sheard, J. L. Bray, F. N. G. Starr, Hy. Glendenning, W. J. Mabee, J. Malloch, R. J. Dwyer, J. H. Elliott, Harley Smith, C. J. C. Hastings, G. Silverthorn, G. R. McDonagh, H. A. Bruce, G. A. Bingham, J. O. Orr, H. T. Machell, A. C. Hendrick, Secretary of the Committee.

Following the dinner and after the health of the King had been honored, the Chairman, on arising, said that he was somewhat puzzled to determine what course to pursue with the remaining part of the programme, for, on the one hand, when speaking to the guest of the evening about it, and asking him whom he would care to hear speak, the guest had answered that he would like the boys to fill up their glasses and have a good time and never mind about speech-making. On the other hand, the Chairman observed that he had been literally besieged during the past several days by letters from nearly every one of the invited guests to permit them under some pretext to be called upon for a speech, always observing the condition that he was to im-

press his hearers with the idea that the individual, with his carefully prepared speech, was not expected to be called upon. He wanted to say that before proposing the health of the guest of the evening it would seem appropriate when there were so many gentlemen present who were officially connected with the University and with other interests in which they had been associated with the guest that these gentlemen should say a few words on the occasion which had brought them together. There were present around the board a member of the Senate of the University, a member of the Board of Governors, the Dean of the Faculty of Arts, the Dean of the Faculty of Medicine, a former professor in the old Toronto School of Medicine, who had been one of the guest's professors in his college days, about twenty or thirty professors of the Faculty of Medicine, a professor of the Women's Medical College, the Secretary of the Provincial Board of Health, the City Medical Health Officer, and others, and he assured all of them that they would have an opportunity to say something in reference to their relationships with the guest, and he said he would do what he could to make it appear that they were all called upon unexpectedly.

Colonel Gooderham, a Governor of the University of Toronto, expressed in felicitous terms the high appreciation of the Governors of the University for the guest of the evening, and voiced in a most cordial way as a patient, the fine qualities possessed by Dr. Wright.

Mr. John King, K.C., who followed Col. Gooderham, said that the French have a saying that it is the unexpected that always happens. This would apply to himself and others who might be called on, but they would all gladly respond to the invitation to speak kind words of the honored guest of the evening. He himself felt it a privilege to be present in this distinguished company—the flower of the medical profession of this city—who were gathered around the festive board to do honor to their old friend. It was a compliment that was well deserved, and he was sure it was fully appreciated by Dr. Wright and his wife and family. We were all agreed there was nothing too good for him. Dr. Wright had lived a pretty long and a very useful life. He had been identified with many interests, and had borne his part and done his duty well in everything with which he was connected. As a member of the medical profession especially he had had a distinguished and honorable career. Every one who belonged to that profession, and who, like Dr. Wright, had been a laborious and self-sacrificing practitioner, deserved well of his fellow-citizens. It was a profession for which he (Mr. King) had a very

high regard. And, as this seemed to be pretty much a meeting of University men, he could not help saying, as he had said in the Senate and elsewhere, that the Medical Faculty, of which Dr. Wright was till lately a prominent member, had been a tower of strength to the University. He (Mr. King) was proud that one of his sons was a member of the profession, and he sometimes thought that his other son might well have joined it, instead of being tossed on the tempestuous sea of Canadian politics. He had known Dr. Wright for well on to half a century, and they had always been warm personal friends. They were undergraduates together in the Arts course, and, when the doctor in his youthful days was attending the Military School, they had bunked together in his (Mr. King's) narrow bed in the old College residence. They were also comrades for years in the University Rifle Company, and in the old days of the electoral struggles for seats in the Senate, they had stood shoulder to shoulder in the fight. They had helped each other in those contests, and had always managed to "get there." There were many such pleasant associations in which he and their guest had been cordial friends, and he was glad to have this opportunity of recalling even a few of them, and at the same time of wishing him health, happiness and prosperity in all the years to come. This was the wish which they all bore him in their hearts.

Professor Baker referred jestingly to what other professions had done for humanity. His own, the teaching profession, had, in succeeding centuries, scarcely made it easier for students to assimilate knowledge. Lawyers had made law more expensive, and had been chiefly ingenious in devising plans to exonerate the guilty. The clergy had not made it easier for us to get to Heaven. The professions of medicine and engineering alone had advanced with the advance of the age. He spoke of the disinterested services of medical men in devoting their time with little or no remuneration to our medical schools and hospitals. It was not creditable to the public that these services were accepted as a matter of course; a large part of the energy of our doctors was consumed in these unrequited labors. While he deeply regretted the loss to the medical faculty in Dr. Adam Wright severing his connection with it, he congratulated Dr. Wright's patients in that he would have more time and energy to devote to them. It was the university's loss, but it was the patient's gain. Prof. Baker closed with a high compliment to Dr. Wright's popularity, due to his personal character, his distinguished scientific attainments, and his great success in the practice of his profession.

Dr. C. K. Clarke said in part :—At less than a moment's notice you have called on me to represent the University, in view of the fact that the President is not here. One does not really know, under such circumstances, whether he is standing on his feet or on his head, but if he judges things by his sensations it is on his head. Then, again, it is bad form to attempt to represent the University, as the present custom is to misrepresent it as far as possible—that is, if we are to take heed of all we see and hear.

Of course, those of us who are lucky enough to be within the charmed circle are prone to believe that the institution stands in a very important relation to the success of the country, and, while it has critics, still, on analysis, it may be shown that, after all, these critics mean no harm, but are good friends at heart, and better Canadians than they are critics.

It is all very well to announce publicly that the University is a centre of organized blackguardism: to say that it is a godless institution; that, again, it has gods—false ones—that it has wretched idols to worship, and even more wretched ideals. Don't believe it, gentlemen; you know better. It is not perfect, and no doubt will be even greater than it now is in the very near future. It really needs no laudation from me, as it speaks for itself.

Some one has told me that I was really expected to reply for theology this evening; just why was not apparent until I remembered that my theological experience was perhaps wider and broader than that of any other Canadian. One could not spend 37 years on the staff of a lunatic asylum without meeting more varieties of theologians than the average physician is accustomed to seeing. By your smile I see that you suppose these theologians were in the wards, but such was not the case, although, possibly, some of them ought to have been. I refer to those who kindly come to give their services every Sunday.

They included every denomination and Church—I am careful not to differentiate here, between denomination and Church—and apparently all felt the embarrassment of the situation. It is difficult to know what to talk to the insane about, but by a psychological process, not worked out by me, most of them talked about the prodigal son. They seemed to have pretty definite views about him, and treated him from every imaginable standpoint, except that of heredity; one enthusiast even promising to come back with a sermon on the prodigal son's brother. He never returned, though, and I left the asylum service with my curiosity ungratified.

Afterwards I attended the University sermons, and, in spite of the fact that the students might easily have been addressed

on the interesting theme, not one word has been heard. In New York I recently visited a large church, wishing to hear good music—there was no music, but there was a sermon on the prodigal son—the same old sermon, the same old point of view. It began to look as if the application was a personal one. I wonder if it was. At all events I have come to this dinner to share in the killing of the fatted calf, and to join you in the glorification of the old Adam who has been disporting in the University Garden of Eden for so many years.

I met him many years ago for the first time in the company of poor brilliant Dick Zimmerman. At that time the Medical Faculty was just as "Wright" as it could be, with Drs. Henry Hoover Wright, Ramsay Wright, George Wright, Fred Wright, Adam Wright and Wm. Oldright. Now it has Dr. A. B. Wright, so the country is safe. These gentlemen all ate of the fruit of knowledge quite freely—not only ate of it, but handed to others with benefit to all, and kept up the traditions of an honorable name.

Dr. Adam Wright deserves the eulogy given him, as he has always been a consistent and active friend of the University. He is loved by every one and respected by all; his career is one of which he and those associated with him have reason to be proud. I wish him the enjoyment of many years of health and happiness.

Dr. Charles Sheard, on being called on, replied in part as follows:

I did not come to-night with any idea of making a speech, but rather to do homage to one of the most respected and best beloved members of the medical profession in the Dominion of Canada. I have known Dr. Adam Wright as a colleague, a friend and a neighbor for over twenty-five years. As a colleague, I met him at the Toronto General Hospital in the old days of Trinity Medical College, and although he belonged to a rival institution, I can truthfully say, upon looking back, there was rivalry without animus, and there could not be animus with a nature such as his. He was ever ready to give way whenever there were any difficulties likely to cause friction. Generously he gave on every occasion any interesting clinical cases he might have for the benefit of all, and always prominent and among the first to harmonize and make easy the work of teachers and students of two schools within the wards of one hospital. At Medical Society meetings we all know his face was scarcely ever absent, and his work and aid ever to be counted upon and of the highest value for the best interests of the profession. Not only

in Toronto, but indeed throughout the whole continent, you seldom can attend a gathering of medical gentlemen, where those of Toronto are referred to, but he is certain to be most kindly enquired after. We cherish the hope that his presence may be with us for many a long day yet to come, and when, through the lapse of years, it comes to pass, as it must to all of us, that he is no longer at our gatherings, we and those who follow will recall his memory with gratitude and tears.

Dr. R. A. Reeve, following Dr. Sheard, said:

I have just been asked to say a few words regarding Dr. Wright's connection with the Toronto School of Medicine. His University training and the experience already gained as a High School master, enabled him to give a good account of himself from the outset. As assistant secretary, his kindness and urbanity had full scope, and the interest shown in the welfare of the entrants of those days, to not a few of whom he was in truth a guide, philosopher and friend, led to many warm personal attachments and to a heartier interest on the part of the students in the school itself. His pedagogic ability and his practical training in the sciences, which have been touched upon, stood him in good stead and proved a valuable asset. Thus, when the genial Dr. Barrett, of blessed memory, was on the sick list, Adam Wright could take up the thread and spin out physiology *secundum artem*; or if dear old Croft did not come to time, Adam's chemical lore and familiarity with test-tubes and reagents was equal to the occasion. Again, the loyalty and self-sacrifice which had led him to respond to his country's call to arms, and to bravely do his part on the field of Lime Ridge, showed itself in his devotion to the interests of the students in sundry Hallowe'en and other ill-fated excursions. The grit and chivalry which led him to identify himself with the boys may have had its reward, alas, in the narrow lonesome cell, but he emerged therefrom a veritable college hero. Students' instincts and judgments are generally not far astray, and so, when the artist of the menu card and of *Torontonensis* depicted Adam Wright the head and the heart (chest) were always in evidence, and his words sententious. We have heard this evening, naturally enough, many references to the University Faculty of Medicine, of which the guest of the hour was a prominent member, but you must not forget that the Toronto School of Medicine was for years a name to conjure with; and Adam Wright, seizing occasion as it arose, did his share in promoting its honor and success, and in making it a worthy rival of Trinity with its indefatigable Dean and vigorous faculty.

Dr. J. A. Temple said:—It is with a great deal of pleasure I rise to make a few remarks about our guest of the evening; indeed, I consider it a compliment to be asked to do so.

My acquaintance with Dr. Wright carries me back quite a few years; it commenced when I resided on Bay Street about 1871—he was then a pretty, fair-headed young man, a medical student. After he graduated in medicine, this soon ripened into a warm friendship, and as we were both engaged in the same line of work the opportunities for frequent meetings in the hospital and out of the hospital gave me many occasions for becoming better acquainted with him, and the better able to judge of his many fine points, and I may say that throughout all these years we have never had anything but the closest and most intimate and kindly relationships with one another. To appreciate all that is good in Dr. Wright is to know him intimately, and you will then find, as I have found that a better or truer friend, or more honorable or cultured physician, is not to be found in our profession. I sincerely trust Dr. Wright may long be spared to remember this pleasant and memorable evening, when we all unite in extending to him our heartiest good wishes—for continued happiness and prosperity.

Mr. I. H. Cameron spoke as follows:—When Dean Clarke transferred his episcopate from the lunatic asylum to the Medical Faculty and the General Hospital he apparently brought with him the atmosphere of delusions, for he told me less than half-an-hour ago that somebody had promised him that he would not be called upon to make a speech, and when I came back into the room a few minutes ago, judge of my astonishment to find him on his feet making “the speech of the evening!” I am not surprised, therefore, to discover that the belief I entertained that, being a member of the committee with this programme in charge, no unexpected “stunts” would be introduced, without my privacy and consent, was also a delusion which I too fondly hugged. Nevertheless, my revenge is at hand! For the speech which I have unexpectedly prepared is a lengthy one which will not permit of paring.

I had hoped that my rôle to-night would be to echo and applaud all the good things which I knew the guests had come prepared to say, and I knew of none who was prepared to say other than good things; but it is at the same time a genuine pleasure to respond to the Chairman’s polite invitation to add my personal felicitations on this happy and auspicious occasion. It is one of the few delights incident to age to look back over the course of forty or fifty years and to recall the *votum, timor, ira, voluptas*,

gaudia, discursus, of the bygone time, even though it inevitably makes one *laudator temporis acti*, and this is universally regarded as an infallible sign of age. But some will say: "What profit is there in harking back? Let the dead past bury its dead!" and they will quote the Spanish proverb: *No hag pajaros en los nidos d'antano*. And they are partly right. But though it may be true that there are no birds in last year's nest, still it may be full of tuneful memories, and to a few of these I would like to invite your attention, dividing the old saw equally between Arthur Wright, John McCollum, Willie Goldie, et al. on the one hand, and Barry Nevitt, Albert Macdonald, Geo. Ryerson, myself, etc., on the other, *Indocti discant et ament meminisse periti!* And in the first place I want to remind you that in the good old days Adam Wright played cricket. And he was very quick and active in the field, a good point or coverpoint or slip, a barn door at the wicket, the despair of bowlers, and a prince among "the flannelled fools." In after days we had a "Sawbones" team, whose peregrinations he always accompanied. He played football, too, the old-fashioned game, and on many a hard-fought field he contributed to the victory—then almost invariable—of Medicine over Arts. In this connexion I would cite the names, for his interest and mine, of Bonter, of the mighty boots, who came from Trenton-way as well; Duncan Cameron, of hereculean frame, who died in his third year of enteric fever; Dugald Stewart, of athletic rather than philosophic fame; Donaghi MacFayden, who had "ta Gaelic," and was a "Champion of the Dames"; Sandy Whitehead, and many more, if time sufficed, in order that John Malloch and Arthur Wright and John McCollum, whom I see before me, might be made to realize the truth of the Horatian dictum:

Vixere fortes ante Agamemnona multi.

In those days there answered to the lecture roll such men as Dick Zimmerman, possibly our most brilliant graduate, *qui ante diem periit*; Fred Wright, Delamatter, Ferrier, O. C. Brown, Sidney Bates, Milton Ira Beeman, T. J. W. Burgess, Burnham, Ball, Close, Covernton, Forrest, Ellis, Gray, Greenlees, Groves, Hagel, Jukes Johnson (Chief Coroner), Beemer (in the chair), Britton (so lately left us for the West), Wm. Burt, now of Paris and a member of the Senate, who served in the American cavalry, and whose painting depicting a typical Canadian doctor starting off on a winter's round of visits adorns the hall of the Academy of Medicine; Sir William Osler, Bart., Regius Professor of Physic in the University of Oxford, not unknown to fame in any land

washed by the Seven Seas; John Beattie Crozier, of Westbourne Grove in London, scarcely less famous through his "History of Intellectual Development"; Balmer; Frank Armstrong, with his long red beard concealing the tracheotomy tube which good old Richardson inserted in an emergency, and which he wore until his dying day fully five and twenty years later, when consumption called him home, and so "his big manly voice (suddenly) turning again towards childish treble, piped and whistled in his sound" to our amusement, and the freshman's amazement. McLellan, too, likewise from Trenton, and later of Chicago, and Shojejowaneh, the Indian, who never graduated, because, with the stoical seriousness of his tribe he combined no cleverness, and Yokome, the joker, who also never graduated, because with much native cleverness he combined no seriousness. Safe and solid Angus Mackinnon, plodding John Gunn, Andy Luke and Adolphus Farewell, Geo. Shaw and McDonagh, Duncan and Donald Fraser; the three Whites (Tom, Jack and Jim), Norman Meldrum, still in Ayr, whose long flowing beard was, as the Florentine woman said of Dante's, "singed in the reek of Hell" (I refer, of course, to the colour (*ne crede colori*), for I do not remember ever to have seen Meldrum at the Caer Howell), but patriarchal now, no doubt; Rolph Lesslie, who served in the former Turkish war—and always in the army of the Lord—and to make an untimely end, Albert Macdonald and Lady Robinson, swelled our list. I have not held Macdonald to the last from forgetfulness, for, sitting there immediately upon my right, I have been constrained to "keep my eye upon him" ever since dinner commenced, but as we always associated him and "Lady" Robinson together (I think they were prosecutors together, and lived in the same house, or on the same staircase), I could not bear to dissociate them now, and, having politely omitted to mention the "Lady" among the Seniors, I was obliged to reserve them for the distinction (grammatically) of the other end of the sentence. Most of these, and many other of our time whom I could mention, are now amongst the shades, and no longer to be met in the haunts of shadow-casting men. Their names are but a memory, but I am sure they are not forgotten by one at least whose enforced absence we so much regret to-night, Chief Justice Sir Glenholme Falconbridge, who was registrar in our time, and who, like Caesar, knew the name and home of every man whom he enrolled. Some of you I may have wearied by calling this old-time roll, since "dead on the field of battle" was the too monotonous response. "The evil that men do lives after them, the good is oft interred with their bones," and so the interesting memory of

most of us hardly survives six months. For a few of you, however, the twigs of last year's nest in crackling beneath my touch have sent vibrations forth to find responsive tremors in drying and withering heart-strings. The other night I had occasion, in order to keep a morning's clinique, to motor some 75 or 80 miles through heavy rain and mud, but fortunately I had the company of one of those old-time fellows (who frequently makes such night journeys between daily operations), Abram Groves, of Fergus, and, with his help, although we had to halt every few miles to clear the valves of mud, I spent "a very pleasant evening," exchanging happy memories of the men and times just mentioned.

Our boxing bouts and wrestlings, the stag dances and the games of cards, played upon crossed benches for a table, in the old King's College Building in the Park, where now stands the Biological Department, and the visits to the hospital in the van which always left the old building at one o'clock, and proceeded to the hospital by way of the Queen Street Avenue, Queen Street, Parliament Street and Don Street, picking up en route any students who wished to join it on their way to the clinique, as well as any street organ or itinerant musicians whom the Press Gang could capture on the way, crowd in upon my backward horoscope. And I recall the noise and tumult and commotion, the humor, and extravagances and absurdities, and the popular protests, expostulations and objurgations, and, although at that time ashamed of them, covered by the blue veil of distance they look innocent enough to-day. And Adam Wright was a part of all, and still looks innocent enough to-day. Wright, however, was no wishy-washy character, and, if you scratch him deep enough to-day, you will find in our *Adam* some of the original "red earth," though, being an Irishman, he has none of the aboriginal redskin; but, in spite of this, as Dr. Beemer has told you, and I repeat, he was always "a white-haired boy." These "trifles light as air" still echo in the haunts of memory where many more serious occurrences are forever stilled.

"When time, who steals our years away
Shall steal our pleasures too,
The mem'ry of the past will stay
And half our joys renew.

There comes to me out of the past
A voice whose tones are sweet and wild,
Singing a song almost divine
But with a tear in every line."

When our student days were ended Dr. Wright began practice in Colborne, and got married, and later went to England and stayed a couple of years, becoming, meanwhile, a member of the Royal College of Surgeons, and when he returned he settled down in Toronto, in the house which still stands immediately south of Dr. Sheard's in Jarvis Street. It was then he joined a band of youthful and enthusiastic workers in the Toronto Dispensary and the Children's Hospital, comprising Dick Zimmerman and Fred Wright, Fred Grasett, Henry Machell and our two selves, with the addition of Barry Nevitt in 1878, when he returned from the N. W. Mounted Police, which he had joined as surgeon in 1874. And we worked along together with much pleasure and great profit. Adam subsequently joined me in journalistic work in the old *Canadian Journal of the Medical Sciences*, founded by Dr. Uzziel Ogden, after he abandoned *The Lancet*, and in which Zimmerman and I and others had helped him, and which Dr. Wright still edits as the CANADIAN PRACTITIONER, though his associates are changed. In those days, which are full of happy reminiscences, we succeeded in establishing the Toronto Medical Society, which was the first association of its kind to attain any degree of viability. Former experiences, owing to the existence of cliques and coteries in a small community, had been so disappointing and unsatisfactory that the older men had abandoned hope of concerted effort, and we younger men were much discouraged by the opinions of our seniors. Despite of this, however, with the hearty co-operation of old Dr. Joseph Workman, Dr. Charles W. Covernton and Dr. James Ross, Sr., and the assistance of Dr. Wm. Oldright, Dr. McFarlane, Dr. J. E. Graham, Dr. Geo. Wright (Adam's uncle), and Dr. J. A. Temple, and a few others, our immediate elders, we persevered, and the society still exists as part of the Academy of Medicine.

In spite of the fact that I have already taken my revenge to satiety, I must persist to tell you that Adam Wright and I early turned our attention to gynaecology and abdominal surgery, stimulated thereto by the remarkable success of Spencer Wells and Knowsley Thornton and Granville Bantock, at the Samaritan, and more particularly of Lawson Tait, in Birmingham, whose devoted disciples we soon became. And in this connexion a case recurs to me which was in a local way historical, as it was the first operation in the then new west wing of the T. G. H., which we owed to the munificence of Colonel Gooderham's grandfather, and of his partner, Mr. James G. Worts and old Wm. Cawthra. It was also the first successful case in a long series. Our friend Col. Gooderham at the high table over there has another connexion with it of which he is unaware, for the patient was a mem-

ber of the household of his grand uncle, the Reverend Ebenezer Gooderham. In those days these operations were not considered child's play, and youngsters did not tackle them. So I went to my old teacher of surgery—than whom no better ever lived—Dr. W. T. Aikins, and I told him of the case and what I proposed to do, and asked him if he would mind giving me a helping hand. To my surprise he said: "I would gladly assist you in anything, but you are not justified in doing an ovariectomy in the Hospital. We have had nothing but deaths in 'so many' cases." I urged upon him the consideration that I was going to operate in the new wing, and with antiseptic precautions—to which he had not yet become a convert, though, later, after a visit to Lister, he became a most ardent proselyte—but he said, "I think that will make no difference," and he was conscientiously obdurate. Taking counsel then with Adam Wright, my *fidus Achates* of the time, we determined to venture it alone. Accordingly the matter was arranged, and, so great was the interest at the moment, that, The House being in session, all the medical members came to the operation, and I was sorry to observe when in England this summer that the last of these ("first made and latest left of all the knights"), Dr. Joseph Baxter, of Cayuga, subsequently Speaker of the House, has recently gone over to the majority. The operation proved to be the worst of its kind that I have ever seen; a huge cyst universally closely adherent to the anterior abdominal wall and great omentum, the liver and the stomach, whose walls had to be seared with the actual cautery to stop the bleeding, and the anterior abdominal wall pllicated on itself and stitched after the method then recently devised by Spencer Wells. Happily, thanks to Lister, to the virgin room, to the patient's lymphatic temperament, and Dr. Adam Wright's skilled assistance and prudent counsel, an uninterrupted recovery ensued. And the next four and twenty cases that we had in the General Hospital followed suit; *et lux fuit!* I must not emulate Tennyson's Brook, however. A thousand nights and a night would not suffice to tell the whole tale, and the dull ears of drowsy men are already vexed enough.

The scene is changed; after forty years another generation claims the field, and Adam Wright is retiring now. In an academic sense I feel that I must now say to him:

"Yes, thou art gone! and round me, too, the night
 In ever nearing circle weaves her shade.
 I see her veil draw soft across the day,
 I feel her slowly chilling breath invade
 The cheek grown thin, the brown hair sprent with grey;
 I feel her finger light

Laid pausefully upon life's headlong train;—
 The foot less prompt to meet the morning dew,
 The heart less bounding, at emotion new,
 And hope, once crush'd, less quick to spring again.

And long the way appears, which seemed so short
 To the less practised eye of sanguine youth;
 And high the mountain tops, in cloudy air
 The mountain-tops where is the throne of Truth,
 Tops in life's morning sun so bright and bare!
 Unbreachable the fort
 Of the long batter'd world uplifts its wall;
 And strange and vain the earthly turmoil grows,
 And near and real the charm of thy repose,
 And night as welcome as a friend would fall."

Tempora mutantur, et nos mutamur in illis! The horizontal rays of the declining sun alter the perspective, and in the Hesperian twilight it seems to us that there were giants in the earth in those days. Our masters and teachers attain Heraclidean proportions, and we still feel the influence of their magnetic attraction—the invisible force which, no doubt, caused "those subtle minded Greeks" to call the load-stone λίθος Ἡρακλεία. But in those halcyon days

"Every goose was a swan, lad,
 And every lass a queen."

But the dog has had his day, and what says Kingsley now?

"When all the world is old, lad,
 And all the trees are brown;
 And all the sport is stale, lad,
 And all the wheels run down;
 Creep home and take your place there
 The spent and maimed among;
 God grant you find one face there
 You loved when all was young."

But a truce to these lugubrious sentiments so fascinating to the Celtic mind on such occasions of change or of departure, and let me in their place offer to the guest of the evening, as one of my oldest friends, and to Dr. R. B. Nevitt, on my left here, as another of equal closeness and duration, and to Professors McPhedran, Baker, Ellis, Van der Smissen and Reeve at the High Table

(Tithonus Macdonald, having the gift of perpetual youth, is entirely out of it), the optimistic words of Browning:

“Grow old along with me
The best is yet to be
The last of life for which the first was made!”

Adam Wright has been fifty years in the University, having entered in 1862. And what a half century's gestation in the womb of Time, in the history of both his country and his University, has this obstetrician been privileged to “stand by” and “assist” at! Of this future annals will not be silent. He has served, man and boy, under four presidents—indeed, all we have had except Bishop Strachan—and won the favour and affection of all four. I know whereof I speak. Two of these, Dr. McCaul and Sir Daniel Wilson, are no longer with us; but we had hoped, had it not been for the unfortunate selection of the night, to have seen Dr. Loudon and Dr. Falconer present in the flesh. Their letters of regret explain their absence, and, since it sometimes happens that a private soldier in the absence of his superiors may act without command, I trust I may be permitted, as a dutiful son of alma mater, void of presumption, to take the words “out of the mouths” of “my most worthy and approved good masters,” and to say, in coming to an end, that it is the University's hope and prayer that her good son and faithful servant, Adam Henry Wright, may still have many years of activity and usefulness before him, and that when, at length his “time of life” shall fall “into the sere, the yellow leaf,” he may find still about him all “which should accompany old age, as honor, love, obedience, troops of friends.”

In proposing the health of the guest, Dr. Beemer, the Chairman, said that forty years ago there came into the old Toronto School of Medicine a young man named Adam Wright. He came over from the Arts Department, but he brought no airs along with him, and he soon made himself as much at home with the medical students as he had formerly been among the Arts students. He was alert and athletic, and very enthusiastic in football, and was always ready and willing to entertain any of his friends with the foils or the gloves. He was rosy-cheeked and light-haired, and indeed, he was commonly referred to by his fellow-students as “the white-haired-boy,” and if at any of their functions anyone would call out “what is the matter with the white-haired boy,” the united response would be “He's ALL Wright.” And the professors also shared this estimate of him,

because whenever there was any occasion for intermediation between the students and the faculty, Adam Wright was one of the first delegates selected to present their claims, and he always came back from the interview with the prayers of the students granted. In those days Adam was strong on heredity, and on one occasion when there was a discussion between a number of his fellow-students on the subject of how it came about that he was possessed at once of such sturdy, virile, manly qualities, and at the same time of such tenderness and gentleness, and when those who were discussing the subject were unable to offer a satisfactory solution, it was decided to refer the question to Adam himself, and his answer was, "Oh, that's easy, it is accounted for on the ground of heredity." Asked for further explanation of what the answer meant, he stated that he had made a careful inquiry into the subject of his progenitors, and he found that exactly one-half of them had been men and the other half had been women.

The Chairman said that a few afternoons before, when he had incidentally mentioned to one of his colleagues in the hospital service that a dinner was to be given to Doctor Adam Wright, his friend observed that "of course it will be held in the Arena, as that is the only place large enough to nearly accommodate the medical friends of Doctor Wright." The friend at once asked the Chairman for his explanation of the guest's immense popularity amongst the medical profession. The answer at once given was that it was his perpetual unselfishness, coupled with his own earnest endeavor to promote peace and harmony and concord amongst the members of his profession; and, thinking it over since, the Chairman observed that he believed that very largely these noble qualities of head and heart were the ones which characterized the guest and made him so much beloved and so much honored by all who knew him. The Chairman said that an observation of Professor Cameron's recalled an incident which was somewhat applicable to the present occasion; the incident was the meeting of two old friends who had been separated from each other for many years. On meeting they greeted each other heartily, one remarking to the other how glad he was to see him, and said that he would like to have two or three years' conversation with him. It seemed that that was about the way with all of the gentlemen present whenever they were speaking to the guest, or speaking about him, because any shorter time than two or three years would be altogether unsatisfactory. Observing this tendency, however, among all of those who had already spoken, and who in that way had relieved him of the necessity of making any allusion to the great qualities of the guest of the evening, he

would simply ask them to fill their glasses and drink to the health of their guest.

When the Chairman called upon Professor Ellis to read the ode, he said he was reminded of some lines used by Doctor Oliver Wendell Holmes when he was reading an address before a medical society. The lines were something like this:

“Why can’t a fellow hear the fine things said
About a fellow when a fellow’s dead?”

From what the guest had already heard he was having better fortune than the subject of Doctor Holmes’ poem, because he had already heard “some fine things said” in prose, and he was now about to hear “some fine things said” in verse.

“WHEN YOU AND I WERE YOUNG.”

When you and I were babes, Adam,
In good Prince Albert’s time
The word went forth that War should cease,
Commerce should link all lands, and Peace
Should dwell in every clime.

When you and I were boys, Adam,
In Queen Victoria’s days,
Those guns that now so silent stand,
Where meet the rulers of our land,
With olive decked and bays,

Roared from the Russian ramparts grim,
Their muzzles all ablaze,
While old Todleben, with his back
Against the wall, foiled each attack
In Queen Victoria’s days.

When you and I were young, Adam,
In good Victoria’s time,
We stood together, side by side,
When Mewburn and Mackenzie died,
And Tempest, “ere their prime.”

But say not “they have left no peer—”
That were unwelcome praise
To those three friends of ours long dead,
Whose blood for Fatherland was shed
In good Victoria’s days.

In royal Edward's time, Adam,
Fresh prophecies were rife.
They told us nickel-pointed shot
And flat trajectories and what not
Would rid the world of strife.

But now that we are old, Adam,
We see with startled eyes
Quick-firing guns won't stop the Jap,
Nor Serb nor Bulgar cares a rap
Who wins the Nobel prize.

When you and I were young, Adam,
There were no telephones;
There was no ultramicroscope;
And no X-rays for those who grope
And pry among the bones.

But, though with diagnostic aids
They were but ill supplied,
There were a few who shrewdly guessed
(Old What's-his-name among the rest)
At what went on inside.

When you and I were young, Adam,
It was damnation stark
To doubt that all that breathe the air,
Came, male and female, pair by pair,
Straight out of Noah's ark.

"*Mutantur*," Adam, "*tempora*
Mutamur atque nos,"
And now we're not a bit afraid
To tell just how the world was made
In detail and in gross.

In pre-Archæan periods
Of elemental stress
The C and H and O and N
Collide, rebound, combine, and then
React with H_2S .

Colloidal specks from this ensued
Which grew, and grew, and grew,
With lively motion all endured,
Till they attained a magnitude
Of 0.01 μ

Then, somewhere over .01
 And under .05
 Amœboid feelers out they sent
 And took some liquid nourishment
 And, lo, they were alive!

In pre-Archæan periods
 Let fancy have her fling,
 But, Adam, will your faith allow
 Such goings on can happen now
 When George the Fifth is King?

Well, times may change, and we may change,
 But, find him when I can,
 I'll drink a health to one who's stood
 For all that's honest, kind and good;
 So, here's to you, Old Man!

And so as times, "mutantur," change,
 Let us in future hoping,
 That he for whom this dinner's held
 May still through Mem'ry's halls be belled—
 He still may teach us—groping.

—W. H. ELLIS.

The address was read by Dr. J. T. Fotheringham:—

To Professor Adam Henry Wright, B.A., M.D., M.R.C.S. (Eng.),
 etc., Toronto:

Dear Sir,—We, whose names appear hereunder, on our own behalf and in the name of your colleagues in the University of Toronto, your friends and former pupils, and the medical profession at large, desire to express and place on record our high appreciation of the services you have rendered as a teacher, as a practitioner of the healing art and as a citizen, alike to the University, the profession and the public, during the nine and thirty years which your professional career has so far smoothly run.

We salute you as one of the pioneers in the once rough field of abdominal surgery, and in pædiatrics in this country, as well as a most successful teacher, author and practical exponent of the *Ars Obstetrica*, and we recognize, with gratitude and admiration, the wide and beneficent influence which you have exercised in these and other respects on behalf of the whole people.

We specially remember, too, how constantly, in matters pertaining to the University, and in professional intercourse, your precept and example have conduced to the promotion of good

will, and the amicable adjustment of divergent views and interests. Among medical editors in Canada you have long been *doyen*, and your prolonged and honorable service to the body medical in this capacity demands mention and acknowledgment, as does also your briefer tenure of the post of Chairman of the Provincial Board of Health.

The close this year of the history of "K" Company, Q.O.R., reminds us that as a member of that military organization, which suffered more severely than any other on the field of Lime Ridge, you have maintained the honor of your college and your country in active service. For these stated reasons, and many more unexpressed, we heartily pray that Lucina and her sister deities, Porrima and Postvorta, and all their train, may long attend your path, to and fro the Porta Cormentalis, as you go out and in among us. For we rejoice to know that although you are retiring from the professional duties of the chair which you have so long adorned, you are to remain among us, actively participating, as heretofore, in daily practice, and in all else that pertains to the advancement and welfare of Medicine and her devotees. *Vive valeque atque valve, et quem fors, dierum cunque dabit, lucro appone!*

Dr. E. E. King then presented to Dr. Wright, on behalf of the committee, with a solid silver tea service.

Dr. Wright, on rising to reply, was received with an ovation such as has rarely been accorded to any man on a similar occasion. He said, in part:—I realize, I think, gentlemen, the honor you confer in tendering me this banquet. I have to confess, however, that I have for some days looked forward to this moment with a considerable amount of dread. Up to the present time this evening I have felt something like a certain Mr. Jones who attended a funeral many years ago. It was the custom in Mr. Jones' neighborhood for both women and men to attend funerals. At the proper time the director of ceremonies told Mr. Jones that he would have his mother-in-law as his companion. He hesitated a little, sighed, and then said: "Well, if you say so, I suppose I must, but it will spoil the whole show for me."

I have always thought that, as a rule, nothing is more uninteresting than to listen to a man talking about himself. And yet I am impelled to do a little of it this evening. My entrance into the world was considered a very important event among the Wrights and Webbs. I was the first in my generation on both sides of the house—having twelve uncles and aunts on the Wright side, ranging in age from three months up to twenty-one years, and seven uncles and aunts on the Webb side, ranging in age from

four years up to twenty-one years. Considering these figures you will readily understand me when I say the customs and habits of the Wrights in those times were to marry young, and have large families. Such customs and habits are not now much in evidence in the Wright family.

After receiving my preliminary education in two private schools, I commenced attending lectures in University College in 1862. My course in Arts was rather uneventful, but I formed in these years some very dear and enduring friendships. It gives me very great pleasure to have a few of my dear friends of those days here to-night.

Soon after graduating, I discovered that I was practically penniless, and would have to depend on my own resources. There were some very dark days while I was seeking for some honest employment. After a time I obtained employment in a registry office at a salary of five dollars a month and board. Soon after I was appointed head master of the High School at Trenton. The trustees had appointed me without seeing me, and, when I arrived in the town I was considered a sort of a joke. Although I was nearly twenty-one years of age when I was appointed, I looked about sixteen. Many of the boy pupils were big fellows—much bigger than myself, and said to be “hard to manage.” Many of the girls were grown up, and very good looking, which latter fact caused me considerable embarrassment. The general opinion was that I couldn’t even commence to control my pupils, and that I wouldn’t last a week. Well, I had my trials and difficulties, and one contest so serious that I had to win absolutely or retire: but I won. I was treated with wondrous kindness by the citizens of that town. One man was especially kind, and on two separate occasions told me that if during my medical studies, or when commencing practice, I required any money, he would let me have what I wanted. Shortly before graduating I went to see him. I didn’t, however, ask him for money; I asked him for his daughter; he gave her to me, and I have her now.

I commenced my regular medical course October 1st, 1869, in the Toronto School of Medicine, and graduated, M.B., from the University of Toronto, in 1873. Those student days in Medicine were the most pleasant I have ever spent in any efforts to acquire knowledge. I was on very intimate terms with certain young practitioners of Toronto, such as McFarlane, Oldright, Reeve, George Wright, and Graham, whose society I enjoyed much. Among my fellow-students, two of those I loved very dearly, Fred Wright (Irving Cameron’s brother-in-law) and Dick Zimmerman, passed away many years ago. Among the other stu-

dents of my time were Wagner, who, on account of illness, was not able to come here to-night, Beemer, Cameron and McPhedran, who are with us now. I have a great many pleasant recollections of my student days in the old Toronto School of Medicine and the Toronto General Hospital.

After graduating I practised in Colborne, Ont., for about three years, and then engaged in post-graduate work in London, Paris and Dublin for fifteen months. I passed the examination for membership in the Royal College of Surgeons, England. I came to Toronto in 1877, and commenced practice at 312 Jarvis Street, October 1st. I became associated with the Toronto School of Medicine in 1878, and was its acting secretary, and practically its manager, until the Medical Faculty of the University of Toronto was established in 1887. My relationships with the students were remarkable, perhaps unique, from 1878 until 1892, when I ceased to act as secretary of the University Faculty. During these years I knew all the students personally, and entertained a certain portion every session in my house. Dr. King, in presenting this beautiful silver service, has referred in a very kindly way to those entertainments. I may say that during all those years I enjoyed my intimacy with the *boys* very much. I was their father confessor. I knew all their secrets, and I sympathized with them in all their troubles. The results were remarkable, and came to me, who expected nothing, as a tremendous revelation. Those young men, whom I treated with ordinary courtesy, have been since they graduated, and are to-day, almost without exception, warm and devoted friends of mine. In my travels in recent years I have met them in all parts of Canada, from the Atlantic to the Pacific, in many districts in the United States, in England, Ireland and Scotland, and I shall expect to meet some of them when I go to the West Indies, Australia and New Zealand.

It is impossible for me to give you any idea of my appreciation of the kindness of the medical profession of Toronto towards me and mine during the last thirty-five years. The dear, sweet friendships which have been formed appear to me to be the greatest assets I now possess. I am pleased to think in this connection that many of my dearest friends are men much younger than myself. It will continue to be my aim and endeavor to cultivate new friendships among the young men so long as I am permitted to labor among you.

With reference to this banquet, I feel very much like my friend McNaught, to whom was tendered a banquet in the National Club not long ago. I regard it very much as I do the cherry in the cocktail. I like the cherry, but I like especially the

spirit in which it is given. As I understand the matter, this banquet is tendered to me now because of my retirement from active work in the Medical Faculty of the University of Toronto. As there has been some misunderstanding as to the situation, I may tell you now, definitely, that I sent in my resignation shortly after the close of last session, and it was accepted about two weeks ago at a meeting of the Board of Governors, held November 14th. My reasons for resigning will not be stated now; but I may say, incidentally, that I desire in the future, to spend most of my time, and most of my energies, in connection with my private practice.

I have taken great interest in matters pertaining to medical education for a long time, and I shall continue to study the subject in the future. Many and varied have been the discussions on this question during the last thirty years or more in all parts of the civilized world. It is interesting to consider that similar discussions were carried on over two thousand years ago. Alexander the Great, the boy king who ascended the throne of Macedonia at the age of twenty, B.C. 336, was not only a great warrior, but was also very fond of art and science. Under the tutorship of that wonderful man, Aristotle, he took great interest in art and literature, natural history, and comparative anatomy.

Within about five years he had practically conquered the world, and he then conceived the idea of making Alexandria, at the mouth of the Nile, the great city of the world, the centre of commerce, industry, civilization and intellectual life. After his death, at the age of 33, B.C. 323, his great empire fell to pieces, almost in a day, but art and science, which he had encouraged and fostered, lived after him. Egypt became only one of the kingdoms of the shattered empire, but she was for more than four hundred years the centre of intelligence and culture for the whole civilized world. The cultured Ptolemies, who were originally Greek, became the rulers of Egypt.

About 33 years after the death of Alexander, B.C. 290, Herophilus, the most scientific and most popular physician living, a devoted follower of Hippocrates, founded a medical school under the patronage and with the assistance of the Ptolemies. He endeavored to carry out the Hippocratic methods of teaching, and, in addition, to pay greater attention to the sciences, especially human anatomy, comparative anatomy, physiology, chemistry and botany. The Ptolemies erected great buildings, established huge libraries, immense museums, and large botanical gardens. The ruling princes even dissected to make respectable a work which before had been considered vile and "godless." Hippocrates at-

tached the greatest importance to acute observation and careful interpretation of symptoms. This great school flourished for a time, but after the death of Herophilus gradually neglected the cardinal points in the teaching of Hippocrates, lost ground, and finally died, apparently of senile decay, about four hundred years after its foundation, i.e., A.D. 100.

About ten years after the foundation of this great medical school, Erisistratus founded a rival school. While the other richly endowed school was retrograding and neglecting what we call bedside instruction, the new school became thoroughly imbued with the Hippocratic ideas as to the importance of observation and the study of symptoms. This was remarkable, inasmuch as the teachers in the old school claimed to be the true followers of Hippocrates, and probably were for a short time, while the teachers of the new school were for a time inclined to sneer at everything Hippocratic. The new school became aggressive, and was considered to be essentially practical. Its teachers had evidently more common sense and sound judgment than those of the other school. It was in a very flourishing condition while the other was dying.

The third Alexandrian school was known as "the school of the empirics," whose whole practice was "based on experience." They rejected anatomy because they considered it useless. And yet they were not generally ignorant, and many of their methods were Hippocratic. It is remarkable that this new school, which almost ignored the sciences, and had practically no financial assistance, continued in existence something like twenty years after the old respectable school had closed its doors. And, moreover, for a long time it was exceedingly popular with the general public.

The history of these three schools is exceedingly interesting, and is worthy of our careful consideration at the present time. We have a Faculty of Medicine in the University of Toronto, supported in a very generous way by the Ontario Government. We have studied very carefully the various methods of medical teaching. We have endeavored to combine the practical with the scientific, and we think the prospects for the Faculty are bright. We cannot be certain, however. Let us endeavor to learn the lesson which comes to us from the Alexandrian schools. The wealthy, respectable, orthodox, scientific school went to the wall, while its supposedly less fortunate rival forged ahead. Even the poor, unscientific school of empirics was for one or two centuries far more popular than the state-endowed institution of Herophilus. It is possible that history will repeat herself in future centuries. Will the Medical Faculty of the University of Toronto

die from senile decay or scientific dry-rot within the next century or two? Will there be a flourishing school of osteopaths within the next fifty or one hundred years as popular in Ontario as was the school of empirics in Egypt two thousand years ago?

Well, now, gentlemen, I must say that my greatest difficulty is to find words to express my gratitude for this magnificent demonstration. However, I have decided that I can best express my feelings by one word, a word I learned at my mother's knee, a word that has been of immeasurable service to me during my whole life—that plain, dear, simple, good old English word—*thank* you.

ACCEPTANCE OF DR. WRIGHT'S RESIGNATION

At a meeting of the Board of Governors, held November 28th, the following resolution was adopted: Moved by Dr. J. A. Macdonald, seconded by Dr. D. B. Macdonald, and resolved: "That in accepting the resignation of Dr. Adam Wright from the Chair of Obstetrics the Governors of the University of Toronto take the opportunity of expressing by resolution their high appreciation of the great services that he has rendered to the university during his twenty-five years' connection with it, and through it to the practice of medicine throughout this Province and indeed the Dominion. In the lecture-room and the hospital he was a painstaking teacher, in the practical affairs of the Faculty he was a wise counsellor, and as a man he secured the affection of his colleagues. The Governors hope that Dr. Wright as Professor Emeritus will for many years continue to maintain his interest in the progress of the Department of Medicine and the University in general."

MEDICAL ITEMS.

A tuberculosis sanitarium will shortly be established at Ninon, County of Essex.

A new wing called the Empire wing will be added to the Kingston General Hospital.

A hospital will be built by the Salvation Army in Montreal to be called the General Booth Memorial Hospital.

Dr. Roberts, the able and energetic Medical Health Officer of Hamilton, has decided to issue weekly health bulletins.

Dr. C. F. Painter, of Boston, delivered an address at the Orthopædic Hospital, on December 16th, on "The Influence of Skeletal Defects on Health and Disease."

A hospital will shortly be erected at Cochrane, Northern Ontario, at a cost of about \$50,000. The site has been given by the Temiskaming and Northern Ontario Commission.

At a meeting of the Associated Charities of Toronto, which took place, November 11th, it was suggested that a building be rented at once and used as a temporary hospital where persons mentally deranged could be detained. It is hoped that a permanent hospital for this purpose will be built in the near future at a cost of about \$100,000.

At a meeting of the Dominion Medical Council, held at Ottawa, Nov. 7-8, the following officers were elected: President, T. G. Roddick, Montreal; Vice-President, Dr. Thornton, Deloraine, Man.; Registrar, Dr. R. W. Powell, Ottawa; Executive Committee, Drs. McKechnie, Victoria; Hardie, Toronto; Stewart, Halifax; Brett, Banff; Spankie, Wolfe Island, and Normand, Montreal.

It is expected that a sum of money amounting to about \$700,000 will be raised for the Notre Dame Hospital, Montreal. A committee has been formed for that purpose and each of its members has promised to be responsible for \$35,000. It is hoped that the money will not only relieve the hospital from its financial difficulties, but will make it possible for the trustees to purchase all necessary equipments.

Personals.

Dr. Jno. C. Calhoun, formerly house surgeon at the Manhattan Eye, Ear and Throat Hospital, New York City, announces that he has opened an office at 16 Bloor Street West, Toronto.

Dr. Reginald S. Pentecost, who has done post-graduate work in New York and Vienna, announces that he has opened offices at 90 College Street for the practice of diseases of ear, nose and throat.

Dr. Horace Bascom, who has practised medicine in Uxbridge for about twenty years, was appointed Clerk of the County of Ontario, Oct. 10th, in succession to Mr. Thos. McGillivray, who has been appointed County Judge.

We offer our congratulations to three of our friends in Toronto who have recently recovered after operations for appendicitis, Dr. Charles Wagner, Dr. Donald McGillivray and Dr. Norman T. MacLaurin.

Dr. Charles J. Hastings, Medical Officer of Health, Toronto, was elected President of the Great Lakes Pure Water Association at the meeting held in Cleveland, October 23-26. The meeting for 1913 will be held in Toronto.

Dr. Walter McKeown returned to his home, Toronto, Nov. 9th, after an absence of over two months. While in Belgium his son, who was travelling with him, contracted typhoid fever. We are glad to be able to announce that he passed through the attack without serious complications, and made a good recovery.

At "Riverdale Holme," Avening, Ont., on November 20th, by Rev. Austin L. Budge, M.A., James Taylor Thomas, M.B., Toronto University, '09, of Caledon, Ontario, to Marion (graduate nurse of Trinity Hospital, Milwaukee, and of General Memorial Hospital, New York), daughter of Mr. James Carleton.

Obituary

ALICE MCGILLIVRAY, M.D.

Dr. Alice McGillivray, a well-known and highly respected medical practitioner of Hamilton, died suddenly Oct. 29th, aged 41. The cause of her death was supposed to be apoplexy. She was born in St. George, Ont., and was one of the first three women to enter Queen's University, Kingston, as a student. She graduated M.D. from that institution in 1884.

SIMEON G. STORY, M.D.

Dr. Story, of Blenheim, Ont., died Nov. 5th, aged 47. He graduated M.B. from the University of Toronto in 1893 and settled at once in Blenheim where he practised about 19 years.

WILLIAM HAMLEN, M.D.

Dr. Hamlen, who lived for many years in Detroit, died in Toronto, October 26th, aged 58. He was born in Goderich, Ont., and received his medical education at the Detroit School of Medicine and McGill University.

EDWIN JEFFRIES, M.D.

It is particularly sad that the first victim of the epidemic of typhoid fever in the Hamilton Hospital for the Insane, was a member of its medical staff. Dr. E. F. Jeffries died Oct. 16th, after an illness of about two weeks. He graduated in 1910, and formerly lived in London, Ont.

JOHN HARRISON O'DONNELL, M.D.

Dr. O'Donnell, a well-known physician of Winnipeg, died Oct. 26th, aged 69. He was born in Simcoe, Ont., and graduated M.D. from Victoria College in 1861. He took an active part in the Riel Rebellion, and was held in prison by Riel for ten weeks. During his residence of 43 years in Winnipeg he took an active interest in public affairs and was for a time a member of the Provincial Senate.

Book Reviews.

Surgical After-Treatment. A Manual of the Conduct of Surgical Convalescence. By L. R. G. CRANDON, A.M., M.D., Assistant in Surgery at Harvard Medical School and Consulting Surgeon to Frost General Hospital and Woonsocket Hospital, and ALBERT EHRENFRIED, A.B., M.D., Assistant in Anatomy at Harvard Medical School; Surgeon to Mount Sinai Hospital and Surgeon to Boston Consumptives' Hospital. Second edition, thoroughly revised. With 265 original illustrations. Philadelphia and London: W. B. Saunders Company.

There is a tendency to be somewhat lax in our surgical after-treatment. Teachers are largely responsible for this condition of affairs. They allow the student to rush to the operating room, see the operation, watch it through its many stages, and as soon as the dressings are to be applied allow the student to rush off. He is fairly well acquainted with the technique of the operative procedure and entirely lacking in his acquaintance with the immediate after-treatment.

The student does not follow the subsequent course of the case as he should, is rarely present (unless he be a dresser) when the stitches are removed, and he does not see the case again while in the hospital.

This probably is the main reason why a volume such as this is an absolute necessity. This volume is a necessity, it is thorough and complete. It deals in details through the sick thoughroom, through the anaesthetic, the condition that may arise prior to the operation, the feeding of the patient and the technique of all after-treatment. This volume fills a want. It is brought up to date, and the general practitioner and the house surgeon will be much benefited by a perusal of its pages.

In speaking of skin grafting on page 633, the sentence "after the grafts are placed they are very well dried by gentle sponging." We rather think that sentence could be improved by stating gentle, firm pressure if there is any oozing beneath the graft. Then the only omission we note is that there is no treatment for that area from which the grafts have been taken. It is a very painful area and should be treated in the same way as the grafted area. This is only a minor omission, but the work is so thoroughly good that we have pleasure in being able to call attention to so minor a matter.

The typography, binding and illustrations are of the usual excellence of this firm.

False Modesty, that protects vice by ignorance. By E. B. LOWRY, M.D. Chicago: Forbes & Company. 1912.

Although not intended for the medical profession, this is the kind of book they have been looking for, to recommend to parents whose sons and daughters are perplexing them with questions of sex-hygiene. It is clearly written and goes straight to the point, and is just the book to put into a parent's hands.

Guide to Midwifery. By DAVID BERRY HART, M.D., F.R.C.P.E., Lecturer on Midwifery, School of the Royal Colleges, Edinburgh. Formerly Obstetric Physician, Royal Maternity and Simpson Memorial Hospital, Edinburgh; formerly Gynæcologist to the Royal Infirmary, Edinburgh. With four illustrations in color and 268 diagrams. New York: Rebman Company, 1123 Broadway.

Many of us were much impressed by an evidently strong, brainy man from Edinburgh, who attended the meeting of the Canadian Medical Association in Montreal, in 1897. That man was Dr. Berry Hart, whose writings, in connection with obstetrics and gynæcology, were well known to Canadians. The publication of his "Selected Papers in Gynæcology and Obstetrics" in 1893 created among Canadians a great respect and admiration for the author. In this "Guide to Midwifery" we get an admirable account of obstetrics from a modern standpoint. Up to the management of normal labor we can accept the views of the author without question. We might differ from him as to the advisability of giving ergotin immediately after the child's head is born. However, we note with interest his opinion, although we had thought it was not the opinion generally held in Edinburgh.

In speaking of occipito-posterior cases he tells us the head sometimes becomes arrested transversely in the pelvis and lies, occiput to one side, sinciput to the other. We are told by Chapple (*B. M. J.*, Oct. 12, '12) that this occipito-transverse position is not described in English text-books, but is known in Germany as a *Tiefer Querstand*. Dr. Hart appears to have doubts about manual conversion of the occipito-posterior, while many, especially on this side of the Atlantic, consider it an excellent and effective procedure in certain cases. His views as to the nature of eclampsia are probably correct, although one is apt to get the impression that he attaches too much importance to lesions in the kidneys, and not enough to changes in the liver, other organs and tissues. He thinks that in an actual eclamptic

fit there is no drug so good as chloroform. Many others think that chloroform is the worst possible drug in such a condition. He refers to the dangers connected with the administration of pilocarpin, and says its "use is thus now very limited." We think it safer to consider that it *should never be used* in the treatment of the fits.

While we may differ from the author in a very few cases, we think that the work is an admirable one, and we heartily recommend it to general practitioners and obstetricians.

Atlas of Microscopic Diagnosis in Gynæcology. By DR. RUDOLF JOLLY, Priv. D.C. Translated by P. W. SHEDD, M.D., New York.

This book of some two hundred pages is beautifully printed and altogether quite elaborately gotten up. The histology of the uterus and the manner of obtaining and preparing scrapings for examination are carefully noted. The various pathological conditions found are most accurately shown by drawings, than which we have never seen better. One wonders, though, why, after describing the uterus mucosa as of the columnar epithelial type, he should picture a flat epithelial carcinoma of the body. So, too, we think, too great stress is laid upon differentiating between an alveo-carcinoma of the corpus uteri and a malignant adenoma. We can recommend the book very highly to those doing "scraping" histology.

W. B. Saunders Company, medical publishers, are now established in their new building on West Washington Square—an ideal site right in the heart of Philadelphia's new publishing centre.

The remarkable success of this house and the rapid growth of their business, with the increased facilities which this growth demanded, necessitated removal to larger quarters. They, therefore, erected a seven-story building, housing all their departments under one roof.

Constructed of reinforced concrete, the building is absolutely fireproof and equipped with every modern aid for the manufacture and distribution of medical books and for the comfort and convenience of their employees.

A cordial invitation is extended the profession to inspect the new plant.

Prompt Assimilation

of nutritive material is of the greatest importance to convalescing patients, in all acute diseases or surgical operations.

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Miscellaneous

Dr. W. E. Hamill, Medical Broker, who conducts the Canadian Medical Exchange for the purchase and sale of medical practices and properties between vendors and vendees, informs us that at no time during the past 18 years that he has been conducting this business has he had such an inviting list of offers for sale as at the present time. Most of the practices are located in the Province of Ontario, but he has many in New Ontario, Manitoba, Saskatchewan and Alberta. Bona fide buyers who will agree to treat confidentially information received from the Medical Exchange can get full data of any offers on the books with names and locations and secure a short cut to the goal desired free. Besides the practices he has for sale, he also has a number of locations without a doctor, where the inhabitants have petitioned him to send them a doctor and where population and area without opposition would warrant anyone in doing at least \$3,000.00 a year cash. A letter to 75 Yonge Street, Toronto, will show you just how he conducts this business.

Plasmodial Anaemia

In spite of the modern theory of the etiology of malaria and malarial affections (mosquito-borne infection) this plasmodial disease continues to be rife in certain sections of the country and bids fair to be, like "the poor," "always with us."

Every physician of experience appreciates the principles which should guide him in the treatment of the various acute manifestations of paludal poisoning, *i.e.*, the destruction of the plasmodial hosts which have invaded the blood and which, if not eliminated, consume and destroy the red cells, the vital element of the circulating fluid.

When this purpose has once been accomplished the patient is but partly cured; the damage done to the red corpuscles must be repaired and the vitality of the blood restored, if re-infection is to be avoided. If there is any one condition in which direct hæmatinic or blood-building therapy is positively indicated, it is in Post-Malarial Anæmia. As soon as the febrile period has passed, iron, in some form, should be given in full dosage. Pepto-Mangan (Gude) constitutes the ideal method of administering this essential blood-building agent in this as well as in any anæmic condition. Both the iron and manganese in Pepto-Mangan are

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in organic combination with peptones and are therefore easily and promptly absorbed and assimilated without causing digestive derangement or producing constipation.

Flatulence

Professor Boas, of Berlin, an internationally recognized authority, has pointed out (*Berliner klinische Wochenschrift*, 1910, No. 3) that individuals differ markedly with respect to their tolerance and digestion of the various food stuffs, and that while milk, eggs, rare meats and potatoes are perhaps particularly apt to cause fermentation, no definite rules for the dietetic treatment can be laid down.

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SOME FIGURES.

But a glance at the following brief summary of work done by the C. F. L. B. will convince any thinking reader that a real and necessary task is being fulfilled.

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Can anyone who reads these statistics doubt the usefulness or the necessity of the C. F. L. B.? Let every reader of this notice try to put himself in the position of a blind person, or of the parent, relative or friend of such, and, having done so, let him reach for his pen in haste, and write out a liberal cheque for the institution that would bring light into his darkness and cheerfulness into his gloom. Let him also send the name and address of any blind person not now enjoying the benefits of the library, to the Secretary, S. C. Swift, M.A., 8 Washington Ave., Toronto, Ont. All cheques should be made payable to the Canadian Free Library for the Blind, and forwarded to the Treasurer, E. W. Hermon, 37 Balmuto St., Toronto, Ont.

Irrigation of the throat with ice water from a fountain syringe will relieve the congestion and the pain in acute follicular tonsillitis.—*American Journal of Surgery.*

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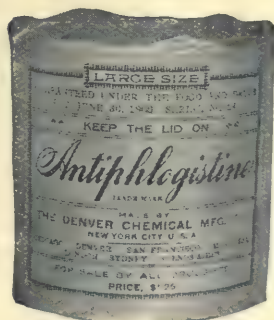
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Descarpentries (*Bull. de la Soc. de Chir. de Paris*, April 17th, 1912), in studying Burkhardt's mode of intravenous ether administrations, thinks that intramuscular injections of pure ether are feasible. Controlled by strong aponeurotic and muscular structures, the evaporation of ether can proceed only slowly. He employs a "Record" syringe, with a needle 7 cm. long, of calibre 6/10 mm. The needle is inserted deeply into the mass of the gluteal muscles at a point which will avoid vessels and nerves, and withdrawn little by little as a quantity of ether is deposited. A black band is tied over the patient's eyes, because, the author naively explains, in the obscurity he will go to sleep more readily. It is advisable to give multiple injections of 10 c.cm., and six of these may be administered. The quantity of ether is estimated by the weight of the patient. As a rule the number of cubic centimetres of ether is rather in excess of the number of kilograms of patient's weight—for example, a patient weighing 55 kilos will require 60 c.cm. of ether. Some transient but not severe pain is felt at the seat of injection. This is followed by pain down the leg, with numbness. Then the patient evinces a desire to talk and his breath smells of ether. In ten minutes he is sleeping, and in fifteen to twenty minutes anæsthesia is complete. The face is pale, pupils are contracted, respiration is quiet, slow, and regular; there is no cyanosis, no bronchial secretion, heart's action is regular, muscular relaxation is often perfect, conjunctival reflex is not abolished. The awaking is gentle; at the end of half an hour sensibility reappears. The patient may talk quite rationally though he may have no sensibility to pain in the limbs. This is quite in accord with the researches of Nieloux, who found that the proportions of ether "fixed" by the brain and by the bulb are equal, while in chloroform anæsthesia the case is different, the bulb fixing five times more chloroform than the brain. Descarpentries has met with no accidents, the only untoward result has been occasional hæmoglobinuria, which never lasted for more than twenty-four hours. The initial pain is quite tolerable, as he knows from personal experience. If anæsthesia is not sufficiently prolonged a few whiffs of chloroform or ethyl chloride will lengthen the period, and also if induction is not sufficiently rapid ethyl chloride may be employed in the beginning. The author has under this method of anæsthesia performed such operations as hysterectomy, staphylo-rhaphy, perineorrhaphy, repair of vesico-vaginal fistula. One

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patient was as young as 5 years. In the discussion which followed one speaker announced that he had tried the method once, but the pain was so atrocious that he had to give an anæsthetic by the usual mode. M. Faure reports a case in which the success of the method was pronounced. Anæsthesia at the beginning of the operation was not profound enough, and a few whiffs of chloroform were required. The operation was removal of ascending ramus of lower jaw and lasted thirty-five minutes. The patient was not seriously incommoded by pain of the injection and made no complaint.—*British Medical Journal*.

Puerperal Eclampsia

Dr. George W. Kosmak, Attending Surgeon, Lying-in Hospital, New York, in a paper published in *The American Journal of Obstetrics*, describes the chief features of the treatment in his hospital, as follows:—

The stomach is first washed out if possible and four ounces of a hot saturated solution of magnesium sulphate introduced after the lavage. The rectum is also thoroughly emptied by means of high soap-suds enemata, and after this is accomplished, from 30 to 60 grains of chloral in 8 ounces of salt solution are introduced through the rectal tube. The patient is then wrapped up in a hot blanket for fifteen or twenty minutes. During this time preparations are made for delivery by whatever method the case seems to demand. Chloroform is not used as a routine procedure, but is given in case the patient resists examination. It is generally stated that convulsions are brought on by manipulative procedures, such as vaginal examinations, etc., but I do not find that this is invariably the case. After the patient is delivered we continue the eliminative treatment by means of colon irrigations and hot packs, the pack being given at intervals of an hour, more or less, until a good reaction is secured. For the irrigations I have heretofore used normal salt solution in quantities of three or four gallons at a temperature of from 105 degrees to 110 degrees, allowing the solution to flow in and out of the colon rather rapidly, as it is desirable to wash out as much material from this locality as possible. Sufficient absorption of the fluid will at the time occur, and it is not desirable that too much be absorbed to further overburden the already congested vessels of the kidneys and other portions of the body. If the patient does not perspire freely as the result of the packs it is of no avail to introduce further quantities of the fluid into

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the system. I have not as yet made use of the normal sugar solution for the purpose of irrigation, but intend to do so as the opportunity offers. For the purpose of securing dilatation of the vessels we employ nitroglycerine in considerable doses, giving two drops of the spiritus glonoin every twenty or thirty minutes until a reduction of the pulse tension follows. Chloral, in addition to acting as a sedative, also produces vascular dilatation, and it has been my custom to continue this drug in 5-grain doses every four or six hours for some days after delivery. This is practically all the medication employed in these cases. We do not use veratrum viride or morphine in our service.

A small erosion of the trachea may give rise to an hæmoptysis, which must be distinguished from a lung hæmorrhage by the absence of pulmonary and constitutional symptoms and by the fact that the blood is in small clotted lumps.—*American Journal of Surgery*.

The Lower Uterine Segment

A. Grazel (*Zeitschrift für Geburtshülfe und Gynäkologie*, vol. lxxix, No. 3) was led to make an anatomical study of this subject, prompted by the uncertainty which still seems to exist regarding the presence of a thinned out lower segment of the uterus in late pregnancy. The research was based on an examination of eleven non-pregnant and four pregnant uteri and also one puerperal uterus. In preparing the sections for microscopical study, the mucicarmine stain was employed, following that with hematoxylin. By this method it was found that the internal os could be readily demonstrated and localized. Grazel claims that there is no anatomical uterine segment demonstrable between the body of the uterus and the cervix, and that this organ can only be divided into two parts, cervix and corpus. An examination of the pregnant uteri leads the author to confirm the views of Bandel and Kustner according to which the cervix from the middle of pregnancy on becomes dilated and is taken up into the uterine cavity. The lower uterine segment, therefore, corresponds to the upper part of the cervix. According to this view the so-called contraction ring is merely the internal os and the area below this, which includes the dilated cervix, is the ring of Müller.



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Puerperal Septic Thrombophlebitis

W. B. Bell says that of the fatal cases of puerperal infection about one-half die as the result of septic thrombophlebitis. If a diagnosis can be made early enough immediate operation should be undertaken, the affected veins in the broad ligament being tied or excised. Under expectant treatment at least 75 per cent. of the severe cases die. Of the mild type about 50 per cent. are said to recover, but no one can tell in advance what course a case will follow. The history of the case is nearly always the same. There is a mild grade of infection from the early days of the confinement, which perhaps has given rise to no real anxiety until about the tenth day or later, when the patient suddenly becomes worse. Not infrequently the onset of serious symptoms has followed instrumental curettement. The temperature which previously has, perhaps, not risen above 100.5° F. suddenly rises to 102.5° or even to 104° or 105°; and the pulse becomes rapid. Rigors soon make their appearance and the patient appears very ill and drowsy. There is little or no discharge from the uterus. Sometimes the case runs a rapidly fatal course, the woman dying of acute septicæmia; at other times a more chronic pyæmia supervenes. In this history two features stand out prominently: first, the late onset of severe symptoms subsequent to parturition, and secondly the rigors. The physical signs are of great importance. A careful examination must always be made for an infected laceration of the cervix or vagina, although the placental site is the usual point of entrance of the micro-organisms. If the thrombosis be well advanced the cervix may be observed to be of a deep purple color from venous congestion. In the absence of cellulitis or pelvic peritonitis the uterus will be found freely movable—a point of great importance—and not tender on palpation. As a rule the uterus is large (subinvolved).—*English Practitioner*.

Silver wire sutures and wire filigree are useful in those hernioplasties in which a large gap cannot be closed by approximation of the tissues, or in which the tissues are so thin that when approximated, they cannot be expected to provide support. In all other hernioplasties it has not been demonstrated that wire possesses any advantage over well-chromicized catgut or kangaroo tendon. The prevention of recurrence, in hernioplasty, depends not on what the surgeon puts in his suture, but on what he puts his suture in.—*American Journal of Surgery*.

The Canadian Practitioner and Review

Vol. XXXVIII. TORONTO, FEBRUARY, 1913 No. 2

Original Communications

SOME OBSERVATIONS IN ANAESTHESIA *

BY LT.-COL. CHARLES W. F. GORRELL, M.D.

Anæsthetist to St. Luke's Hospital; Pres. Ottawa Medical Society.

Gentlemen,—The subject of anæsthesia has in late years been brought very forcibly to the attention of the surgical profession, and it is so vast in its magnitude that it is impossible for one to treat the whole subject in one short paper. Therefore, I intend to confine my remarks to some of the newest methods of administering gases.

The day has passed and gone when any old kind of an anæsthetic given in any manner will do. The public are being educated, and are demanding modern anæsthesia as well as modern surgery. The up-to-date surgeon has discarded the happy-go-lucky form of administration; the old Clover's method has entirely disappeared from up-to-date practice, and if the anæsthetist cannot furnish the safest and best gas, and given in a scientific manner, he will have to go, and not clog the wheels of progress.

Of such great importance has the subject become that the Committee of Anæsthesia of the American Medical Association recommends that all hospitals should have a qualified anæsthetist, whose authority, in his special department should be as complete as that of the attending physicians or surgeons in their fields.

On the North American continent, chloroform has fallen into disfavor; numerous authorities are much opposed to its use, and the Committee of Anæsthesia of the American Medical Association recommends that it should never be employed in major opera-

*Read before the Ottawa Medical Society.

tions, claiming that deaths on the second and third day following the operation are, in the majority of cases, due to necrosis of the liver, due to chloroform poisoning. So this gas has been supplanted by ether, which, in the hands of a skilled anaesthetist, gives all the advantages of chloroform without its dangers. Not one surgeon of prominence now uses chloroform in routine practice.

The manner in which public patients in large general hospitals are anaesthetized comes somewhat of a shock to us who believe in Crile's theory, which, in reality, is that which has been advocated by Dr. Prevost, in Ottawa, for the last fifteen years. Crile lays emphasis on the great influence of perfect confidence of the patient in the operator, claiming that it prevents shock, etc. It is well in carrying out this theory to always give the anaesthetic in the patient's bed, with as little suggestion of operation as possible. Every one should be cheerful and sympathetic, and it is best not to mention the fact that an operation is about to be done. Moreover, the friends of the patient do much to upset the nervous system by their tearful leave-takings, etc. All of these tend to upset the anoci association, thereby causing discharges of nervous energy from the brain, where they should be conserved.

This evening I desire to call attention to three of the methods of anaesthesia now in use.

1. Intravenous anaesthesia, as most successfully practised in Mr. Hugh Lett's Clinic of the London Hospital, under the supervision of Dr. Austin Cooper. Mr. Hugh Lett is one of the most progressive surgeons I have seen, and his clinic should be a Mecca for all surgeons interested in scientific surgery and anaesthesia.

2. Pre-heated anaesthetics with oil of orange, as advocated by Dr. James T. Gwathmey, of New York.

3. Open anaesthesia, using a Gorrell inhaler.

Dr. Cooper, of the London Hospital, in using intravenous anaesthesia, prefers Hedronal. The apparatus is very simple, being composed of a glass retainer, a connecting tube, a dropper, a connecting tube, and a needle, and is given in a manner similar to "606." The strength of the solution used is .75 per cent. of Hedronal in sterile water; the temperature is that of blood heat. It is usual to prepare about two thousand c.c.s. It requires from five to nine minutes for a patient to become anaesthetized, and the quantity of the solution used will be from four to six hundred c.c.s. A half-hour's operation will take about one thousand c.c.s. Dr. Cooper and his methods impressed me very much, and I am of the opinion that this anaesthesia will be very, very beneficial.

In numerous cases, such as (a) resection of the larynx, and operations about the mouth; (b) in cases of accident, where there has been great shock and loss of blood, Hedronal acts as an anæsthetic and the saline as a cardiac stimulant. (c) in long operations upon patients requiring a saline during the latter part of the operation; (d) in country work, in isolated districts, where a surgeon may have to operate without trained assistance; (e) in military surgery in the field.

Naturally, as with every new anæsthetic, some people try it on all available cases, and two deaths have recently been reported from its use. Hedronal, in Dr. Cooper's experience, does not seem to have any injurious effect upon the heart or the kidneys.

In some of the clinics of Europe, one is struck by the imperfect anæsthesia exhibited there, and when one looks into the matter, it can be generally attributed to lack of care, and not enough attention being given by the anæsthetist to his patient. Numerous exceptions are found, such as Sir Frederick Hewitt, Dr. Cooper, Mr. Hume and others.

A very ingenious apparatus is that introduced by Dr. James T. Gwathmey, and consists chiefly of a warming apparatus filled with water and oil of orange, over which is pumped ether or chloroform vapor, and in this form is delivered to a mask similar to that of an ordinary Esmarch mask, which is placed over the face of the patient. Dr. Gwathmey claims that the quantity of ether used is less; the patient passes through the operation in better condition; there is less vomiting and nausea, and the shock is reduced. This apparatus is one which is worthy of attention by all hospital authorities.

The Gorrell inhaler is a device of my own, and one which has been designed from my experience. One or two points have been suggested by other inhalers, but for the most part the idea has been original with myself. This inhaler may be used for the administration of any of the gases now in use, except nitrous oxide. The instrument is divided into two parts—a mixing chamber and a face piece. The mixing chamber is composed of a wire frame, in the centre of which is a wire screen like an Esmarch mask, which mask is covered with gauze. The wire frame is now covered with duck or canvas. At the bottom of this Esmarch's mask is an inspiratory valve. There are two or three openings in the wire frame surrounded by the duck, which openings are protected by valves through which the anæsthetic may be dropped. The liquid reaches the gauze on the wire frame, and, being heavier than air, the vapor settles in the lower chamber next to this inspiratory valve. The face piece is the ordinary one, with an air-cushion, and provided with an expiratory valve. In the latest

model this valve is placed in the bottom of the mixing chamber instead of in the face piece. The apparatus being fitted to the face, the patient being told to inhale, the inspiratory valve is opened, and a mixture of gas and air, held between the Esmarch's mask and the inspiratory valve, is now drawn into the lungs. On expiration, the inspiratory valve is closed and the expiratory valve is opened. So there is no rebreathing of air.

I am of the opinion that the using of the open method to induce anaesthesia is not to be recommended because, first, the time required to bring about unconsciousness is too long; second, the unfavorable effect upon the nervous system of the patient, lying from five to twenty minutes waiting for the time to come when the terrible thoughts and dreams shall cease; third, much valuable time is lost, and the strain upon the nervous system of the patient is increased, and they are more liable to suffer from shock.

In view of this it is my custom to induce anaesthesia with nitrous oxide in a Hewitt inhaler. Then follow with ether, using the inhaler devised by myself. About two gallons of nitrous oxide is used for each patient, and by a rapid mixing of nitrous oxide and ether in a Hewitt inhaler unconsciousness comes on in from one-half to two minutes, after which the open ether method is used.

The advantages claimed for this inhaler now presented to you are: (1) Safety; (2) small quantity of anaesthetic used; (3) marked decrease in nausea and vomiting, compared with the older methods, there being absolutely no rebreathing, and there is always a free exhibition of air; (4) surgical shock is much diminished; (5) absence of kidney and pulmonary complications; (6) a complete control of the patient, almost as much as with Clover's inhaler, and very little free ether escapes into the room; (7) there is marked diminution of the movements of the abdomen as compared with the closed method and the blood is perfectly red; (8) patients are never deeply narcotized and recover very rapidly; (9) it requires all the attention of the anaesthetist; (10) the apparatus can be perfectly sterilized.

The disadvantages:

If care is not taken, the patient may show signs of recovery after the administration of nitrous oxide, and before the ether anaesthesia has been well established. This may be overcome by placing a towel over the apparatus and by a free exhibition of ether.

It is almost impossible to give an overdose of ether if all the valves are open. The whole attention of the anaesthetist is required to keep his patient in a surgical state, and it is very

difficult to dilate the pupil and increase the respiration showing profound anaesthesia.

During the first ten minutes of the open method about one ounce of ether is required; this seeming large amount is explained by the fact that when nitrous oxide is discontinued, the anaesthesia is not an ether one, and ether has to be worked in quickly. If the patient were anaesthetized by this inhaler alone, much less ether would be required during the first hour. But the advantage of a nitrous oxide anaesthesia to render the patient unconscious is so great, and as it takes such a short time, it is much wiser to sacrifice a little of the reputation of an instrument as to the quantity of ether used during the first hour, and have one's patient a shorter time under the influence of an anaesthetic.

It usually requires from three to four ounces of ether for the first hour. Examples:

R. C., male, age 24; a sturdy farmer; operation for appendicitis. Nitrous oxide and ether used; unconscious in one minute. Operation commenced four minutes after the commencement of the anaesthetic. The time of the operation was 45 minutes. The quantity of ether used was $3\frac{1}{2}$ ounces.

G. M., female, age 11; farmer's daughter; acute suppurative appendicitis, with abdomen full of pus. Nitrous oxide and ether used. Patient was unconscious in one minute. Operation commenced five minutes after the commencement of the anaesthetic. Time of operation 35 minutes. Quantity of ether used, $1\frac{1}{2}$ ounces.

Mrs. A. R. Operation, gynaecological. Time required for anaesthesia one minute; time of operation two hours and five minutes, and quantity of ether used $6\frac{1}{2}$ ounces.

Mrs. H.; abdominal hysterectomy. Time required for anaesthesia one minute. Time for operation two hours and twenty-five minutes. Quantity of ether used 10 ounces.

Miss M. O'B.; operation gastroenterostomy. Time of anaesthesia, one minute. Time of operation one hour and fifty-five minutes. Quantity of ether used 5 ounces. Operation commenced five minutes after the commencement of the anaesthetic.

The great majority of patients vomit once or twice before returning to consciousness. About two and a half per cent. vomit after recovery; but the nausea is very much decreased, and the nurses who attend the post-operative cases inform me that the condition of the stomach of the patient is very much better than that when the closed method is used.

Since using this method salines have not been given on the operating table to rally a patient, although operations of the most

severe type have been performed, such as gastrostomies, gastro-enterostomies, nephrophies, cholecystectomies. During the operation cyanosis is marked by its absence, and the blood always is bright and red. In two hundred and fifty examinations of urine, only one case of post-operative albumen has been found, and it disappeared within twenty-four hours. There have not been any cases of pneumonia.

It has been noted that in operations upon the upper abdominal area there is much less rigidity and movement of the muscles than under the closed method. And operations upon people who have been notoriously high livers have been performed without the least discomfort to the operator.

If the anaesthetist will give his complete attention to his patient and to his administration, he can have almost as complete a control as with the Clover. But if he be inattentive, signs of recovery very rapidly develop. A few drops of oil of orange placed on the mask will effectually disguise the odor of ether, so it will not bother the occupants of the operating-room. I am of the opinion that it also helps to diminish the nausea and vomiting.

This apparatus can be completely sterilized. It is easily carried about, and almost unbreakable. The apparatus which I exhibit to you to-night has been used nearly 300 times; has been subject to the treatment of a general hospital, and, as you now see, is in perfect condition.

MEDICAL ASPECTS OF SEPTIC PERITONITIS*

BY JOHN FERGUSON, M.A., M.D., TORONTO.

Mr. President and Fellows,—When I was requested to make a contribution to the programme of this evening on the subject of Septic Peritonitis, I at once consented; for I have always felt that every Fellow should be willing to respond to the call of the Chair with the same readiness as does the individual member of a regiment to his superior officer. At the same time, I felt that the subject chosen for discussion was one of unusual importance; that the audience was a learned one, and that the best I might be able to offer must fall far below the merits of the occasion. Another difficulty at once confronted me, namely, that of being preceded by three distinguished surgeons; so that after they had expressed their views from their several experiences, there would be but little left for me to say that would either interest or instruct. But, like Lockesley Hall, “I shall draw my bow and do my best.”

In the first place let us look into the abdominal cavity. A little thought on the anatomical arrangement of the parts will reveal many reasons for the frequency with which disease makes its appearance in it. Many important organs, with complicated functions, are in close contact with each other, and these are more or less completely covered by the subject of our study to-night, the peritoneum. The peritoneum in extent, if unfolded, would cover the entire body, or, in other words, would equal the area of the skin. In the adult, the intestinal canal varies from 15 to 30 feet in length. There are also the liver, the spleen, the pancreas, the kidneys, and the uterus, with their ducts and tubes. In the male the peritoneum is a completely closed sac, while, in the female, it opens upon the external world through the Fallopian tubes. It should be borne in mind that the peritoneum is richly supplied with blood vessels and lymphatics, that it has definite secretory functions to perform, and that its absorptive powers are very great, especially in those parts known as the large omentum and the covering of the diaphragm. Here lies the key to much that makes for successful treatment—the keeping of infection away from the dangerous areas. A long list of investigators, beginning with Wegner, in 1876, and including

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such names as Ludwig, Klein, V. Recklinghausen, Houston, Durham, Sargent, Metchnikoff, Flexner, Frankel, Grawitz, Orth, Adami, Dembrowski, Malcolm, Lanz, Welch, Gordon, Andrewes, Ross, Dudgeon, Graser, Roloff, Kanthack, Hardy, Meyer, Mittner, Waterhouse and many others, have thrown a vast amount of light on the physiology and pathology of this membrane, so fragile in structure and so copious in function.

Coming to the etiology of peritonitis there is much that one might say, and there is a certain amount that one ought not to say in order to do justice to the question. This disease has been spoken of by many writers under the headings of primary and secondary. By the former term is understood that form of the disease in which no other causative or primary lesion is present. The peritoneal cavity becomes infected as the result of some general infection, as pneumococcic septicæmia. Under this hæmatogenous variety come those cases that were formerly called idiopathic or rheumatic and such like. The primary form of peritonitis occurred in 12 out of 156 cases reported by Flexner, and in 9 out of 105 observed in the Massachusetts General Hospital by Manahan. This gives 21 primary cases in 211 or a little less than 10 per cent. of all. Of these primary cases it has been observed the pneumococcus is responsible for 90 per cent. of them, and the staphylococcus pyogenes aureus for about 8 per cent. These two organisms cause about 98 per cent. of all the attacks of septic peritonitis of the primary variety.

Coming now to the secondary form of septic peritonitis, Flexner and others give us two divisions, the endogenous, when the infection is from within the body, and exogenous when it is from without. In 162 cases there were 44 of the exogenous class and 118 that should be considered endogenous. In these 162 cases the following organisms were found: The bacillus coli communis 54 times, 11 times alone and 43 times combined with some other germ; the streptococcus pyogenes 49 times, 12 times alone and 37 times combined; the staphylococcus aureus 18 times, 13 times alone and 5 times combined; the bacillus ærogenes capsulatus 8 times, twice alone and 6 times combined; staphylococcus albus 7 times, 4 times alone and 3 times combined; the pneumococcus 7 times, twice alone and 5 times combined; the bacillus pyocyaneus 5 times and always in combination; the bacillus proteus 5 times, twice alone and 3 times combined; the bacillus typhosus 3 times and always combined. There were 6 cases of undetermined mixed infection. Other observers have obtained results that fairly closely agree with the foregoing. The gonococcus is responsible alone for some cases of peritonitis. Generally, how-

ever, some other organism is found along with it. The mixed cases are usually the more severe.

A good deal of careful work has been done on the site of the lesion through which the infecting organisms find their way into the peritoneal cavity. On this point the statistics from St. Thomas' Hospital are instructive. Intestinal obstruction of some sort caused 39 per cent., appendicitis 37 per cent., perforations of the alimentary tract 11 per cent., the pelvic organs 6 per cent., and undetermined 5 per cent. Benda gives the site of the initial lesion in 446 cases as follows: The appendix, 115; the stomach and duodenum, 68; the rest of the intestines, 118; the female genital organs, 81; the gall bladder, 10; the kidneys and urinary bladder, 10; the pancreas, 2; the spleen, 1; post-operative, 4; hæmatogenous, 2; and of unknown origin, 35. It will be noted, therefore, that Flexner gives about 9 per cent. as being primary, and the St. Thomas' statistics set down 7 per cent. in which no lesion could be found and presumably of the primary type; while the figures of Benda give 37 as unknown and hæmatogenous, or say 8 per cent., that may be regarded as falling in this class.

As to the lesions that permit the passage of the various infecting organisms these may be mentioned: Salpingitis, rotation of a tumor on its axis, ruptured extra uterine gestation, bleeding from an ovarian follicle, rupture of a hollow viscus, a tube, or duct, and openings through the abdominal walls, injury to the alimentary canal by chemicals, and intestinal obstruction.

In the study of the etiology of septic peritonitis two things should be borne in mind. First, that the various bacilli or cocci may pass through an inflamed portion of the alimentary tract, or of a tube or duct, though there be no perforation. For example, in the case of an inflamed appendix, the several organisms may have found their way freely into the peritoneal cavity while the appendix remains intact. In like manner a severe inflammation of a portion of intestine, without a rupture, may be the means of causing peritoneal infection. The second point is that bacteria alone is not sufficient. The defensive powers of the peritoneum may be sufficient to prevent the appearance of inflammation. All portions of the peritoneum are not equal in this regard, the lower part being more evolved along the lines of first defence. The organism, too, plays an important role. Against an invasion by the streptococcus pyogenes aureus, or the bacillus pyocyaneus, the peritoneum can make but a feeble resistance. Then, again, the peritoneal cavity may be attacked by such large numbers that its powers to absorb them and carry them away into the blood stream or the lymphatics are overwhelmed. A

number of conditions lower the resistance of the peritoneum, such as foreign material in its cavity, rough handling in operations, drying its surface, or prolonged exposure to cold. Fluid in the cavity, Bright's disease, a recent injury, the escape into it of intestinal gases, and the breaking down of adhesions, also favor the spread of infection and lessen nature's resistance.

The location of the lesion to some extent assists in coming to an estimate of the nature of the infection. In peritonitis due to gastric perforation, the organisms are usually the pneumococcus and a streptodiplococcus of rather low virulency. In perforation in the small intestines the bacillus coli and streptococci are almost invariably found. When the rupture occurs at the appendix there is some difference of opinion. Low and Lartigan regard the bacillus coli and diplococci to be causative. These authors also give a prominent place to the streptococci. On the other hand, Krogus, Kelly, Dudgeon and Sargent are inclined to think that the streptococci play a minor part in peritonitis of appendiceal origin. In puerperal peritonitis streptococci are generally present. It should be remembered that some organisms possess greater persistency than others. Thus the bacillus coli may outgrow the causative germ and be found alone post-mortem. It has been also observed that the bacillus coli will not grow in the presence of the bacillus pyocyaneus. This latter organism, though sometimes found in the intestinal canal, is not normally there. Below the middle of the intestinal canal anaerobic and putrificient forms are frequently found, such as the bacillus *aerogenes capsulatus* and the bacillus putrificus.

The form of organism has much to do with the course and prognosis of an attack of septic peritonitis. The virulence of the bacteria are in the following order from mild to severe. First, comes the staphylococcus albus, then the gonococcic cases, next in order are those due to pneumococcic infection. Following this in order of activity we find the more virulent stains of the bacillus coli. The most fatal forms are those caused by the streptococcus pyogenes and the bacillus pyocyaneus, which are about equal in this respect. Against these two latter organisms nature alone can make but poor defence. The endothelium, the phagocytes, and the antibodies in the peritoneal moisture go down before such an invader as the streptococcus pyogenes aureus, there is severe shock, and the blood stream is speedily infected, and bacteriæmia ensues. The small amount of thin fluid thrown out in such cases offers little opposition to the spread of the inflammation, or does almost nothing in the way of forming adhesions that localize the attack. The same may also be said

of the bacillus pyocyaneus and virulent stains of bacillus coli. The pneumococcus is very fatal when it accompanies the same infection in some other organ.

Let us recall for a moment what is taking place in a case of septic peritonitis. Professor Andrewes has divided the resisting powers of the peritoneum into the physiological, or the first line of defence, and the pathological, or the second line of defence. In the first, we find that strong currents of fluids in the vessels can do much to carry off the infecting bacteria. This stream can be greatly increased when the need for it arises. These fluids are loaded with antibodies. Then there are the mesoblasts, with their phagocytic powers, which can be thrown into the peritoneal cavity in great abundance. In these processes the omentum plays an important part. The endothelial cells of the peritoneum are shed freely, and possess markedly phagocytic capacity. Should these efforts fail, the second line is called into action, and there is leucocytosis, hyperæmia and exudation. This latter may be serous, serofibrinous, fibrinous, fibrino-purulent, purulent, sanious or putrid. If the exudate contains much fibrin, it fills the spaces between the intestinal coils and glues them together. In this way the exudate serves a useful purpose in limiting the field of infection. But all these efforts may fail, and the inflammation may become diffuse, or general, and the system is overwhelmed with bacteria and their toxins. The intestinal walls become swollen and softened, and lose tone. They may become friable and easily ruptured; the peritoneum strips off readily. The lymphatics are filled with exudates and cells, which Durham has shown are conveyed to the anterior mediastinal glands, these becoming seriously infected in bad cases. The liver, spleen, kidneys, and pancreas frequently show cloudy swelling. Whipple found, in 23 severe cases of septic peritonitis, infection necrosis ten times in the liver, and six times in the pancreas. The infection may extend to other serous membranes, and the condition called polyserositis, or polyorrhomonitis, appears.

What has already been said leads to a few words on prognosis. Much of the statistics of the past must be set aside, as surgery is continuously playing a more and more important rôle in the treatment of septic peritonitis. Nevertheless, enough is known to make this one of the gravest of maladies. In Treves' reported 100 cases, there were 70 deaths. The disease tends to be most fatal at the two extremes of life, and debilitating conditions and intemperate habits add much to its gravity. Toxæmia and septicæmia are factors that largely determine the issue, and every effort should be made to prevent and control these. Among

unfavorable symptoms may be mentioned rapid pulse, low temperature, abdominal distention, and absence of leucocytosis. The prognostic importance of the different kinds of infection has already been discussed. One of the most important considerations in the prognosis of this disease is that of the time that has elapsed from its inception to that of operation. "Operation within 12 hours should succeed, whereas, if postponed for 24 hours, the outlook is very grave." The late Dr. John C. Munro, of Boston, said, "Every surgeon of experience will frankly assert that a large share of his deaths and bad results come, not from surgery, but from previous ignorant or misdirected treatment of patients suffering from an inflamed peritoneum, before they are given into his hands." E. M. Corner and many others could be quoted to a similar effect. A glance once more at the statistics from St. Thomas' Hospital will make it clear that the prognosis is mainly dependent on the early and efficient intervention of the surgeon. Intestinal obstruction causes 39 per cent., appendicitis 37 per cent., and perforations 11 per cent. Here, then, 87 per cent. of the cases can only be relieved by surgery. The remaining 13 per cent. from the pelvic viscera, and doubtful causes, will yield a further number demanding the aid of the surgeon. It may be said that at the lowest estimate at least 90 per cent. of all cases of septic peritonitis are essentially surgical. This fact places a heavy responsibility upon the physician who is usually the first to see these cases, and who should seek the co-operation of a surgeon.

The physician should, therefore, be a master of the semiology of the disease. He should be on the alert to recognize the abdominal pain, the tenderness, the nausea, the vomiting, and the changes of pulse and temperature. Attention should be given to detect rigidity of the muscles, as this is of great value in differentiating peritonitis from colic, volvulus, gall-stone attacks and the passage of renal calculi. There is in these states no real tenderness, and pressure may even afford relief. Ordinary tympanites is distinguished from peritonitis by the absence of tenderness and vomiting. The sunken, anxious face and the restlessness of the upper part of the body, with the immobility of the abdomen, should be noted. The pulse is small, weak, running, wiry, and usually above 120 per minute. Extreme meteorism may cause the liver dulness to disappear and lead to opinion that there is free gas in the peritoneal cavity, and on the other hand, free gas may not obliterate the liver dulness if there are adhesions. Diaphragmatic pleurisy may give rise to doubt, but there is a catch in the breath at the height of inspira-

tion, and under firm pressure with the flat hand the abdomen relaxes at each inspiration, which is not the case in peritonitis. Copious vomiting, visible peristalsis, rapid onset of distention, the paroxysmal character of the pain, and, at first, the absence of fever, true tenderness, and rigidity, enable the diagnosis of acute obstruction to be made. The late Mr. Greig Smith said that if no gurgling was heard after five minutes' auscultation there was complete intestinal paralysis. Dr. Nothnagel claimed that the elimination of large quantities of indican in the urine was a very valuable and constant sign of diffuse, acute peritonitis.

Diagnosis is the key to the situation, the watchword, the open sesame that will unbar the door of whatever measure of success may attend one's efforts at treatment. Three phases of the diagnostic problem must be kept in view:

1. Those conditions that may lead to errors in diagnosis, and some of which may cause septic peritonitis, must be differentiated. These are: (a) Ruptured tubal pregnancy, with its menstrual history, pelvic location, shock, and acute anæmia; (b) acute enterocolitis, in which there is pain, tenderness, diarrhœal colic, tenseness, collapse, toxæmia, but absence of rigidity; (c) referred abdominal pain, caused by pleurisy and pneumonia, but the absence of tenderness and rigidity should clear the ground; (d) hysteria may be very misleading, but the stigmata of the true condition may be found by close observation; (e) intestinal obstruction due to intussusception, strangulation, volvulus, stricture, foreign bodies, and the dynamic form, as paralytic or spasmodic, but the absence of fever and true rigidity will assist in arriving at a true opinion; (f) acute pancreatitis, with its sudden onset, epigastric pain, tenderness, vomiting, collapse and distention, may cause much doubt, but the absence of indican from the urine is of great importance, and there is not the rigidity found in gastric perforation or acute peritonitis; (g) ruptured gall bladder, which is usually preceded by indications pointing to disease, gall stones or jaundice.

2. The local manifestations: (a) Pain is almost always present. Its initial point may vary with the case, as the Morris point in appendicitis, pelvic in tubal cases, in the upper abdomen in gastric rupture. When the peritonitis becomes diffuse the pain is referred to the region of the navel. (b) Tenderness is a very constant symptom. It may be revealed on the slightest pressure, or some force may be required. At first it may be found only at the point of the initial lesion, but later on becomes general. (c) The position of the patient is characteristic, as the

knees are drawn up and the head raised. (d) Vomiting occurs early. It is frequent and small in amount. At first it is what is in the stomach of last meal; then it becomes bilious, later greenish, and may become brownish. Sometimes it is offensive, as if it contained intestinal contents. (e) The abdomen at first may be retracted; the muscles are tense and rigid. As the disease advances there is distention from the formation of gases and the loss of peristalsis. The distention presses the diaphragm upwards, with accompanying symptoms. In time there may be a good deal of fluid. (f) Constipation is usual. In puerperal peritonitis, diarrhoea is common. This is also true of pneumococcus infection.

3. The general symptoms are pronounced in most cases. (a) Shock is well marked, and collapse may come on early from the extent of peritoneum involved, and the degree of toxæmia. (b) The pulse is frequent, wiry, and hard, and runs from 120 to 170 per minute. (c) The face is anxious, pinched, ashy, cyanotic, clammy. (d) The breathing is rapid, shallow and costal in type. (e) There is usually fever, though this may be absent. It may rise abruptly. It may range from little above normal to 104. (f) The urine is scant, frequently contains albumin, and the presence of indican is so constant and abundant as to be a valuable diagnostic sign.

Now for the goal of all our study, namely, Treatment. Eminent physicians and surgeons alike contend that this is a surgical disease. This is true. It has a surgical side as well as a medical. That the abdominal cavity must be opened there can be no doubt. On the other hand, the physician has duties to perform that may mean the life or the death of the patient. As the physician is usually the first to see these cases, he has much to do with the laying of the foundations for the proper management of the case.

The first thing to consider is what to do when the patient is first seen, and before an operation is performed. The advice given by Mr. Corner cannot be improved upon, and may be thus stated:

1. Place the patient in the semi-erect Fowler position, as this limits infection to the lower portion of the abdominal cavity.

2. Give no food, and allow only very small sips of water, or a few ounces of normal saline solution per rectum every two or three hours. By this means intestinal peristalsis is greatly restrained, and the spread of infection checked.

3. Do not give opiates. This masks symptoms, lowers the resistance of the patient, and interferes with the occurrence of

leucocytosis. It is much better to encourage the patient to bear the pain.

4. Wash out the stomach with a solution of bicarbonate of soda, grs. xx to the ounce. This assists in controlling vomiting and thereby mitigates suffering.

5. Do not waste time over vaccines, sera, and attempts at the production of artificial leucocytosis. These measures are altogether too uncertain, and time is too precious. These measures may be tried after an operation has been performed.

6. At once educate the patient to accept the benefits of operative treatment. On this subject the statistics of Treves, with 30 per cent. recoveries; those of Koerte, with 35 per cent.; those of Haenel, with 37, and those of Krogius, with 28.5. Place against these figures the results of early and properly performed operative treatment. Murphy had 35 recoveries in 36 consecutive cases.

7. If the patient absolutely refuses the benefit of an operation, then treat on the starvation plan of Ochsner, the Fowler position, and the maximum of fresh air. Wash out the stomach with the soda solution. Tympanites may be relieved by an enema containing some turpentine, chloroform and tincture assafoetida, or by the use of the rectal tube. As opiates lessen leucocytosis, they should not be administered unless absolutely necessary. Both tympanites and pain may be relieved by a turpentine stupe.

The management of the case during operation, and subsequent to it, has been so thoroughly covered by Professors Bruce and Watson, and Dr. Hay, that there is little for me to say. I shall content myself by merely naming what may be done: (a) The continuous administration of fluids per rectum; (b) vaccines and sera; (c) artificial leucocytosis; (d) washing out the stomach with soda solution if there is sickness; (e) abdominal distention may be treated with hot, dry flannels, an enema, the rectal tube, and the administration of eserine or atropine, or the injections of pituitary gland extract; (f) hiccup is relieved by gastric lavage, sinapism to the epigastrium, an enema, sedative and antispasmodic drugs, or a small amount of morphia. (g) The feeding must be done with the utmost care. Very little should be given at first, and cautiously increased.

GENERAL SEPTIC PERITONITIS*

BY S. M. HAY, M.D., C.M.

Gynecologist Toronto Western Hospital; Consulting Surgeon Toronto Orthopedic Hospital.

Mr. President and Fellows of the Toronto Academy of Medicine:

Peritonitis may be caused by many different conditions, and any of the ordinary pyogenic organisms may be responsible. Their entrance through the blood stream is rarely in sufficient quantity to produce diffuse inflammation, but it is generally due to some gross surgical lesion. The severity of the inflammation may depend on the virulence of the poison introduced, the resisting power of the patient or upon the part of the peritoneum chiefly or primarily affected. The pelvis absorbs poison slowly, while the upper peritoneum, near the diaphragm, absorbs rapidly.

Clinically peritonitis may be divided into two classes: 1. Acute. 2. Chronic. The acute may be either localized or diffuse. The chronic either simple or tuberculous. It is the acute, diffuse variety that is chiefly under discussion to-night. It may originate from any part of the gastro-intestinal tract from the stomach to the rectum—the most frequent part being the appendix. It occurs in all its awful fury in any case where an irritating fluid is suddenly thrown into the general peritoneal cavity. When we remember that the extent of the peritoneal surface is almost equal to that of the skin, and that its absorbing power is very great, we can understand that a large quantity of poisonous fluid suddenly poured into it is one of the most overwhelming calamities that can befall a human being. Bishop says that the character of pain in these cases is of great value in diagnosis. An intense, sudden, tearing pain, often severe enough to produce collapse, and usually associated with sharp vomiting, is common to a comparatively small class of cases. These are:

1. Ruptured ectopic.
2. Ruptured pyosalpinx.
3. Ruptured appendiceal abscess.
4. Ruptured gastric ulcer.
5. Ruptured duodenal ulcer.
6. Ruptured gall-bladder.

Just observe that these are all *ruptures* of important organs, permitting the escape of irritating fluids into a healthy peritoneal cavity. The peritoneal cavity may be filled with ascitic

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fluid, which is *non-irritating*, and no such symptoms are produced. And again in tuberculous peritonitis the cavity may contain even pus and still no such awful symptoms are the result because here the peritoneal cavity is *unhealthy*. While a ruptured ectopic gestation will give the sudden, severe pain mentioned before, the blood is not septic—it is really an example of *aseptic* peritonitis—as is also a sponge or ligature in the peritoneal cavity.

The symptoms of peritonitis are well known. They generally commence with abdominal pain combined with rigidity and this is important. Pain without rigidity does not indicate peritonitis. In cases of intestinal obstruction from non-inflammatory adhesive bands—you have pain, but not rigidity. In gastric or duodenal ulcer, you may have pain but no rigidity, until the peritoneal coat becomes involved. Catarrhal appendicitis will cause pain but no rigidity unless there be also some peri-appendicitis affecting the peritoneum. From this I think we may say with confidence that we do not get rigidity until the peritoneum becomes involved. Many of us do not care to operate on a case of appendicitis in the third or fourth day of the attack because we know that generally the poison has gotten well beyond the appendix and we may have more or less of a general peritonitis. If, however, on examining our patient at this time we find the left side of the abdomen not rigid and the right side rigid with no palpable mass we may conclude that the inflammation is probably still confined to the region of the appendix and we may operate with safety.

This rigidity of the abdominal muscles, however, is only temporary. It passes off later on. When distension begins, showing septic paresis of the intestine, rigidity lessens or passes away.

Subjective pain may be misleading as the patient may refer it to the region of the umbilicus, but, on palpation, if we find one point more tender than any other, we may reasonably conclude that we have found the origin of the trouble.

In addition to pain and rigidity we have spasm and tenderness, vomiting or an inclination to vomit. There will also be alterations in pulse and temperature.

A pulse increasing in frequency and decreasing in volume is significant, and, as a grave prognostic sign, is reliable. A pulse rate persisting above one hundred and twenty, regardless of temperature, is a serious sign.

We will not follow the symptoms out in those awful fatal cases, where the countenance becomes anxious, the face pinched and drawn, the eyes sunken, the tongue dry and coated, the ab-

domen greatly distended, the knees drawn up, the dusky, clammy, skin, etc., etc. We are all agreed in regard to the cause, symptoms and diagnosis, there is no discussion here, so we will pass on to the treatment, which, according to literature and our experience, is not well settled and may be said to be even now passing through a period of transition.

Before passing on to the all important part of our subject, general or diffuse, septic peritonitis—we may briefly discuss the localized form. Let us take for example an acute appendicitis, 24 hours old, pain and rigidity in the right side, over McBurney's point, while the left side remains soft and even painless. In such a case, I think, we are all agreed that the appendix should be removed at once, while the disease is still confined to that organ; by doing so we have gotten rid of the entire trouble and perhaps saved our patient from a later perforation with a dangerous diffuse septic peritonitis. Take another example of the localized form, salpingitis, of one or more days standing. Shall we remove the tube at once? Certainly *not*. I will quote from a paper which I wrote on "Operative Technique in Abdominal and Pelvic Surgery" and which was published in the *Canada Lancet* of January, 1909.

"Why not operate in acute salpingitis? Why operate in acute appendicitis? These are questions I have occasionally put to final students in the council examinations. They are generally unable to give a reason. The way I have reasoned it out for myself is that in salpingitis we are dealing with an organ that normally opens directly in to the peritoneal cavity, and before the disease has had time to close the fimbriated end of the tube the pelvic peritoneum has become to some degree infected. Surgical interference at this time is likely to spread the infection by breaking down the protection that nature has commenced to build around the poisoned point. Also, experience has taught us that these cases, while acute, frequently succumb, if radical surgical measures are employed. And we also know that the tendency of such cases is to either subside, or to go on to pus formation, which becomes well walled off and may later on be opened through the vagina, and if cure does not follow, an abdominal operation may be done still later, when the pus, if any remain, has become less virulent. On the other hand, in acute appendicitis, if we operate early, while the poison is still confined to the appendix, we are operating on a closed tube, and, by removing it, we have gotten rid of the focus of infection and the entire trouble. And again, experience has taught us here that appendicitis is one of the most treacherous of diseases. The

appendix is likely to perforate or become gangrenous and destroy our patient's life with remarkable rapidity. In any given case, with our present knowledge, we are quite unable to predict with any degree of certainty the course the disease will take."

If we are called to see a case of appendicitis ten or twelve days old, of this localized variety, and on passing our hand over the abdomen we find a large prominent mass in the region of the appendix, and the other parts of the abdomen comparatively soft, we know that we have to deal with a large abscess. What is our treatment? We merely open the abscess where its wall has united to the abdominal wall, pass in a drainage tube, and stop. If the appendix comes into view at once it should be tied off. We are not justified in this case in hunting for the appendix, lest, in doing so, we disturb the abscess wall, break down nature's inflammatory protection, and cause pus to escape into the general peritoneal cavity with well-known results. Even though the appendix be perforated, it can only leak into the abscess cavity and run out through the tube you have inserted. The appendix may be removed at a later and safer date, if necessary.

It takes just as much judgment and fortitude to stop operating as it does to go ahead. It is better to do two safe operations at long intervals than to have one unnecessarily dangerous one, and perhaps a funeral. Many of these abscess cases never require a second operation, the appendix having been destroyed by the suppurative process.

We now come to the battle-ground of this whole subject: the treatment of general septic peritonitis. There are very few, if any, more formidable foes with which the surgeon is brought face to face.

The treatment of this condition is surgical. There is no medical treatment, except in so far as it may assist and supplement the surgical. Isolated cases recover under medical treatment, and they may do so under no treatment.

By operation we seek to first remove the products of inflammation or escaped contents of a ruptured viscus, second to relieve intra-abdominal tension and thus diminish absorption, third to remove or close the focus of infection.

If the cause be appendicitis, then the appendix must be considered a perforated organ, whether macroscopic perforation be demonstrated or not. It will not suffice to drain only—the appendix must be removed. Where at all possible, our patient should be removed to a hospital. The disadvantages of moving a patient in the semi-sitting position are much less than the disadvantages of operating in a private home.

Where the cause of the trouble is known, the incision should be made over the affected viscus. If the cause be unknown, we should make a liberal median incision between the umbilicus and pubes. During every step of the operation we should keep a sharp lookout for any sign that will direct to the probable cause. On opening the peritoneum proper, note if a puff of gas escapes, which would indicate the rupture of some air-containing viscus. If a gastric ulcer has perforated, the escaping fluid will contain flakes of lymph or particles of food. The fluid may be bile-stained in perforated duodenal ulcers. If the gas and fluid have a very offensive odor, we may exclude stomach and duodenal trouble and suspect the appendix as being the offending organ.

Now introduce the fingers, or perhaps the hand, into the abdomen with the greatest possible gentleness. No rough manipulations should be used. Every movement should be made with gentle quickness and definite purpose. Let us first find the cecum and examine the appendix. If it be innocent and the cecum collapsed, we know the large intestine is not the cause of the trouble, so we must search higher in the gastro-intestinal tract. Should the cecum be distended, we next examine the sigmoid, and if it is also distended and no obstruction between it and the anus, we know we have a case of intestinal paresis from general septic poisoning. But we have not found the source of the trouble. By gently passing the hand towards the upper abdomen we will probably find one spot where there is a thick, localized deposit of lymph, and on disturbing this an extra amount of fluid is liberated. This is a reliable guide to the initial lesion.

We will suppose that by our hurried and systematic examination we have found a gastric perforation. We at once proceed to close the opening (without exsising it) in the orthodox manner. If we are not perfectly satisfied with the security of our closure, and at times the tissue is very friable, we should place an omental graft over it as an additional precaution; or we may cover it with a strip of gauze, leaving one end out of the incision. The sponge water in this work should be normal saline, and small, wet sponges, with holders, should gently mop out the excess of fluid and escaped stomach contents. A second incision above the pubes (if the first one has been over the stomach region) and the fingers passed into the pelvis will generally be rewarded by a surprising gush of fluid. A rubber tube is placed in the pelvis and the wound closed around. No flushing of the abdomen is necessary or advisable. The upper wound may be closed completely if no gauze has been packed around the stomach sutures.

The fluid is sucked out of the drainage tube, frequently with glass piston syringe and catheter attached. In a day or two, drainage ceases. Any drainage tube should be withdrawn an inch in twelve or twenty-four hours lest the end should cause a pressure slough by accidentally resting on a part of the intestine. After operation the patient is put in the Fowler position.

During the last twelve months, I have seen five patients with perforation of the stomach and resulting peritonitis. Four I operated on. Three recovered and one died. My assistant, Dr. R. W. Wesley, operated on one during my absence from town. His case recovered. One of these cases, a professional gentleman, I saw in consultation at midnight on a cold winter night, seven miles from town. The question of operating at his residence—a good country home—was discussed. We decided to bring him to the hospital. After our diagnosis was made, and our line of procedure decided, our patient was given half a grain of morphia, hypodermically, to relieve his awful pain. He was then brought seven miles in a semi-sitting position in a taxicab, with comparative comfort. Operation was performed at once very much on the lines described above. The patient made a good recovery. I mention this to emphasize the fact, which I consider very important, that to remove these patients very carefully in the semi-sitting position is not serious; in fact it is much safer than to undertake to operate even in the homes of the well-to-do.

There are cases of general septic peritonitis where we have symptoms of *indefinite* intestinal obstruction due to paralysis of the bowel. You may even have visible coils appearing through the greatly distended abdomen. These are cases of some days' standing. On opening the abdomen in such cases, the over-distended, dark-colored bowels protrude through the incision. Here it may be necessary to empty the bowel of its contents before we can make a successful search for the source of the trouble. In making your opening in this congested intestine, the incision should be made opposite the mesentery and across the bowel, and thus interfere as little as possible with the already badly damaged blood-vessels.

There are a few forms of general septic peritonitis in which it is not advisable to operate, and those are the cases where we cannot remove the septic focus. As examples, we may mention: cases resulting from poison introduced at an operation, cases resulting from gonorrheal infection or from some cases of pneumonia.

It is encouraging to note that the general practitioner of to-

day rarely covers up the symptoms of these acute abdominal cases by the use of hypodermics of morphia. Morphia should never be used until the diagnosis is made and the line of procedure determined.

We now sum up the treatment for the great majority of cases of general septic peritonitis as follows:—

1. Operate as early as possible in the attack. Every hour of delay increases the mortality.

2. Remove the focus of infection in the quickest and most simple manner, and with as little trauma as possible.

3. Wipe out with moist, small sponges, on holders, the *gross* inflammatory products and escaped viscus contents that have accumulated in the pelvis.

4. Place a large rubber drainage tube in the pelvis, with a strip of plain sterile gauze down beside it. This tube is kept empty by a glass piston syringe with rubber catheter attached.

5. Place the patient in the Fowler position as soon as diagnosis is made, and again for two or three days after the operation.

6. Give large quantities of normal saline by the bowel, either continuously or intermittently, after the operation. It is said to reverse the current in the lymphatics of the peritoneum, making the surface of that membrane a secreting instead of an absorbing agent.

7. A single dose of morphia may, if necessary, be given after operation. The bowels are moved in twelve or twenty-four hours by laxative enemata. My favorite formula for ten or twelve years being:—

Turpentine	2 oz.
Glycerine	2 oz.
Mag. Sulph. (sat. solution).....	2 oz.
Aqua	ad 12 oz.
Sig.: Warm, and give high.	

550 Palmerston Boulevard, Jan. 3rd, 1913.

GENERAL PERITONITIS IN GYNAECOLOGICAL AND OBSTETRICAL PRACTICE*

BY B. P. WATSON, M.D. (EDIN.), F.R.C.S. ED.

Professor of Obstetrics and Gynecology, University of Toronto; Obstetrician and Gynecologist, Toronto General Hospital.

Mr. President and Fellows,—

THE part allotted to me this evening is that of initiating the discussion on general peritonitis as met with in gynecology and obstetrics. Even when viewed from this limited standpoint the subject is a large one, and, in the short time at my disposal, I cannot cover the whole field. I shall, therefore, rather try to focus attention on one or two points dealing more especially with prophylaxis, and shall leave to the other speakers a detailed discussion of general causes and treatment.

Taking up the subject from the viewpoint of gynecology, the first thing that strikes us is the comparative rarity of general peritonitis as a sequel to purely pelvic lesions in women. Considering the large numbers of pus cases with which we have to deal, this at first sight appears strange, and a consideration of the causes underlying this comparative immunity is instructive both from the side of pathology and from the more practical standpoint of treatment. We shall see that general peritonitis in gynecological practice is to a large extent preventable if we have a proper conception of the pathological conditions and base our treatment on these.

In the rapid dissemination of an infective process in the general peritoneal cavity several factors play a part, viz., the action of gravity, the peristaltic movements of stomach and intestine, the great shock, producing a lowering of the vitality of the tissues and the virulent nature of the infecting organisms. In pelvic lesions, on the other hand, gravity tends to limit the process; there is comparatively little visceral movement; there is less shock and therefore a greater chance of tissue reaction which will limit the process, and lastly, the infecting organisms are often of a less virulent type than those present, say, in a perforative lesion in the upper abdomen or appendix region. A peritonitis having its origin in the pelvic organs thus tends to remain localized, and this localization may or may not be followed by abscess formation.

*Remarks made in the discussion on General Peritonitis at the Academy of Medicine, Toronto, January 7th, 1913.

The chief source of peritoneal infection in the female pelvis is the Fallopian tube. In practically every case of salpingitis there is an associated peritonitis, the organisms reaching the peritoneal surface either through the abdominal ostium or by a lymphatic extension through the tube wall. In most tubal infections, especially gonococcal ones, the extension of the inflammatory process is comparatively slow, and there is time for tissue reaction. The tube wall becomes edematous and thickened, the mucosa swells and there is a certain amount of gliding of one muscular coat on the other. The result is that the fimbriae become retracted within the lumen and peritoneal surface becomes adherent to peritoneal surface round the abdominal ostium. A large escape of infective material is thus prevented and the chances of a diffusion over the general peritoneal surface lessened. Peritoneal adhesions to surrounding structures form, and as distension increases the tube wall becomes thickened by the deposit of inflammatory material, and so a large pyosalpinx may result. After a time the infecting organism, especially if it be the gonococcus, tends to die out. Sometimes it is replaced by a secondary invasion of the bacillus coli, which, in its turn, may also die, leaving the pus fetid, but quite sterile. In such a case nature limits the infective process and we must be careful that any treatment which we may carry out does not interfere with this limitation.

The risk of such a pyosalpinx rupturing into the general peritoneal cavity is comparatively slight. Brickner¹, in May of 1912, was able to collect only 91 cases from the literature. Bonney², writing three years earlier, could only find trace of 44.

To operate through the abdomen during the early stage of a pyosalpinx, due to the gonococcus, or even the other pyogenic organisms, is to run a very great risk of setting up a generalized peritonitis, for the difficulties of removal may be so great that some escape of pus may occur. In such cases our treatment ought to be conservative, the patient being kept at rest and carefully watched. The Fowler position may be adopted, and if necessary opiates given to quiet visceral movement and allay pain. For the latter purpose the application of hot fomentations or of an ice bag may also be used. If general toxic symptoms be severe and pus be obviously present drainage may be established through the vaginal roof. After a period of weeks, or it may be months when the temperature has returned to normal and signs of active inflammation have disappeared, removal of the tube or tubes may be undertaken. In the interval of waiting vaccines may be administered according to the nature of the infecting

organisms. In gonococcal cases a mixed vaccine seems to hold out the greatest prospect of success.

When rupture of a pyosalpinx does occur it is nearly always preceded by severe attacks of abdominal pain and is, of course, followed by general peritonitis. The occurrence of such attacks of pain in a case where we know a pyosalpinx to exist ought to warn us, and this, with a deterioration in the general condition of the patient and a rising leucocytosis, should lead us to explore from below and evacuate the pus.

The mortality from cases of ruptured pyosalpinx is high, and the only hope for the patient is early operation. In the 91 cases collected by Brickner, 54 died and 35 recovered (2 are unaccounted for). The 35 patients who recovered were all operated on. Of 28 cases operated on within 24 hours of rupture only 3 died. In such cases, in addition to opening and draining the abdomen, the tube ought to be removed.

We have lately had in the Toronto General Hospital a case of generalized peritonitis, resulting from a ruptured tubo-ovarian abscess, somewhat similar to some of those already recorded.

The patient was admitted on the afternoon of Wednesday, Nov. 20th, with all the symptoms and signs of a general peritonitis, and on examination a large semi-fluctuating mass was felt on the left side of the pelvis. There was a history of moderate pelvic pain and fever extending over three weeks, followed for two days before admission by more severe spasms of pain and culminating the night previous to admission in a very severe attack accompanied by symptoms of collapse. When seen her pulse was 130 and temperature 103° F. The abdomen was distended and hard. On opening the abdomen there was a quantity of turbid fluid present mixed with pus and a general peritoneal inflammation. The source of the trouble was a large left-sided tubo-ovarian abscess adherent to intestines, omentum and pelvic wall and leaking pus from a rupture on its lower and posterior aspect. After mopping away as much of the pus as possible we proceeded to remove the mass. This was effected by beginning on the healthy side of the uterus, cutting the latter across at the level of the isthmus and shelling the tubo-ovarian mass outwards towards the side of the pelvis. Drainage was established through the lower part of the wound and through the posterior vaginal fornix and the rest of the wound closed without washing out. The patient was very ill for two or three days after the operation, but has now made a perfect recovery.

The removal of the uterus in those cases where the tube is densely adherent renders the operation easier and, I believe,

improves the chances of recovery. When only the tube is removed re-infection may take place from the stump.

Another case may serve to illustrate the risk of too early operation in cases of gonococcal pyosalpinx. A woman, aged 25, was admitted to the Toronto General Hospital with a definite diagnosis of gonorrhea and with the symptoms and signs of double pyosalpinx. She had an irregular temperature rising to 102° and 103° F. and rapid pulse. After several weeks in hospital, during which time she had vaccine treatment the temperature subsided. The tubal swellings appeared, however, to be undiminished in size and fluctuation was distinct. She was becoming more anemic and her condition generally deteriorating. Owing to these facts and to the inaccessibility of the tubal swellings from below, we opened the abdomen hoping to be able to remove the whole source of trouble. This was found to be impossible owing to the density of the adhesions, so drainage was established through the wound and through the vagina. For 48 hours after operation she gave us great anxiety owing to threatening of general peritonitis with rigidity, distension of abdomen and excessive vomiting. She ultimately made a slow recovery, although a sinus still persists seven weeks after operation. In this case we probably operated too soon, and it would have been better in the first instance to have drained from below. As mentioned above we did not do this owing to the apparently high position of the tubal swellings.

In dealing with cases where a more or less localized peritoneal infection has resulted from leakage of pus through the abdominal ostium without the formation of a pyosalpinx and the organism is the gonococcus it is not always necessary to remove the tube. The opening and draining of the abdomen may be all that is required. Such tubes may remain functional, and as the condition is often bilateral and occurs in young women, the conservation of the tubes is most important from the point of view of future child-bearing.

It is also well to remember that in many cases of peritonitis, the tubes are inflamed, although they are not the original source of infection. Organisms in the peritoneal cavity are very apt to find their way through the abdominal ostium and set up a salpingitis. In such cases careful search must be made for the primary lesion.

In addition to tubal affections there are other lesions of the female pelvic organs which are occasionally the cause of a generalized peritonitis. These can only be mentioned briefly.

Perforation of the uterus by the uterine sound dilator or

curette in the course of the operation of curettage is not an infrequent accident. If, however, the operation has been carried out with due aseptic precautions peritonitis seldom follows. If, therefore, such an accident occur, no treatment of an active kind should be carried out. If the operation be stopped and the patient kept at rest she will, in most cases, make a good recovery. Should, however, symptoms of peritonitis supervene the abdomen must be opened.

Torsion of the pedicle of a subserous fibroid of the uterus or the rare cases of torsion of the whole uterus may be followed by a diffuse peritonitis usually due to the bacillus coli. Here again the watchful surgeon will step in before such a calamity occurs.

Neurobiosis or red degeneration of uterine fibroids, a condition which may arise without apparent cause, but which is often associated with pregnancy, abortion or the puerperium may also be followed by general peritonitis. The signs and symptoms of this condition are so definite that warning is given and operation should be undertaken before the process has advanced to such an extent as to lead to secondary involvement of the general peritoneum.

Torsion of the pedicle or suppuration of an ovarian tumor may have general peritonitis as a sequel, but here again the peritoneal inflammation is a terminal phenomenon and ought not to be allowed to occur.

The treatment of these cases differs in no way from that suitable for peritonitis due to other causes and should follow the general principle of removal of the source of infection and the establishment of drainage. Regarding the latter point we shall have something to say later.

Puerperal Peritonitis.—In the great majority of cases of peritonitis occurring in obstetric practice the infection is part of a general sepsis. A study of the more recent literature and work on this subject, while it leaves us still in doubt regarding many points, seems to make it clear that many of the severe types of puerperal sepsis, including peritonitis, are the result of what has been termed “meddlesome midwifery.”

It used to be taught that the parturient canal was free from pathogenic organisms, provided no examination had been made before or during labor, and it was believed that in most cases of puerperal sepsis the organisms had been introduced from without. Through the work of many investigators this belief in the absence of pathogenic organisms from the genital canal has been shattered. We now know that organisms, many of them virulent, or potentially virulent, are sometimes present previous to any

internal examination. Winter³, for instance, found in an investigation of 215 cases that hemolytic streptococci were present in the genital canals of 10 patients previous to examination. In a larger series of 510 patients who exhibited no sign of sepsis he found hemolytic streptococci in 21. These results confirm the findings of other investigators, such as Zangemeister and Ahlfeld. Rosowsky⁴ has recently recorded the bacteriological findings in the genital tract of 80 women. He detected anaerobic organisms in 25, streptococci in 21, staphylococci and streptococci in four. Under ordinary circumstances such organisms may be only saprophytic, but after abortion or labor they may become virulent. Zangemeister⁵ lays emphasis on the fact that in order to do damage these organisms, whether already present in the genital canal or introduced from without, require to be inoculated. The mere presence of a raw surface may not be sufficient, they must actually be planted in it. A knowledge of these facts regarding endogenous infection has led to a considerable modification in the treatment of minor accidents of labor and the milder and more localized forms of puerperal sepsis. A still wider knowledge of them will lead to a great diminution in the number of cases of serious puerperal sepsis, including peritonitis. If it were possible to have a bacteriological examination of the vaginal content of every woman previous to labor, we would arrive at an ideal condition. We would then know in which cases it was safe and in which it was dangerous to carry out operative measures. But even without this exact knowledge the fact that potentially virulent organisms may be present should make us extremely cautious in carrying out any but the most necessary interference. Take, for instance, the retention *in utero* of small pieces of placenta or membrane. In the absence of hemorrhage it is safer to leave these in the uterus than to run the risk of inoculating raw surfaces with pathogenic germs, and this we may do however perfect our aseptic technique. Then again in mild degrees of sepsis any active treatment such as rough manipulations in the giving of an intra-uterine douche or in curettage of the uterus may result in a fresh inoculation and a rapidly spreading sepsis. In such cases rest, the Fowler position and the administration of a uterine stimulant, such as ergot, may be all that is required.

We have put these facts in the forefront because in the present state of our knowledge our great hope lies in prevention. The mortality of puerperal peritonitis is very high. This is due to the fact that it is often only a part of a general sepsis, and that the diagnosis is difficult, so that operation is not undertaken early. But even in cases where operative interference is carried

out at an early stage the results are not so good as those obtained in abdominal lesions, such as perforated gastric ulcer or appendicitis. This is accounted for by the low state to which the patient is brought by the septic poisoning and the impossibility, in many cases, of removing the source of infection. De Lee⁶ states that out of over twenty cases on which he has operated, only one has recovered.

When occurring as part of a general sepsis the typical signs of peritonitis may be absent. Chief reliance for diagnosis must be placed on the increased rapidity of the pulse, abdominal distension and vomiting. The presence of free fluid is seldom detected, but in cases of doubt exploration with a needle may help. Those cases usually terminate fatally in a few days. Some are opposed altogether to operation, especially if the organism is a streptococcus and it is present in the blood.

In cases where the peritoneal infection occurs later in the puerperium, and is at first localized to the pelvis, the prognosis is better. In these cases the gonococcus and bacillus coli are more often present and infection takes place through the end of the tube or by lymphatic extension through the wall. Those cases must be carefully watched, and if the inflammation shows signs of extension the abdomen must be opened without delay. If, on the other hand, the general condition of the patient is good and there is no evidence of extension to the upper abdomen, it is better to wait for localization to occur and then attack the condition from the vaginal fornix. No definite rules can be laid down which will apply to all cases. Each must be judged on its merits. In one it may be best to make an incision through the posterior fornix at an early stage and so diminish the risk of extension to the upper abdomen. Several writers have reported good results from this procedure. When in doubt it is better to err on the side of early rather than of late interference. It is in such cases that a man's clinical acumen tells.

Treatment of General Peritonitis.—Surgeons differ in their procedure in operating on cases of general peritonitis. All are, however, agreed that if possible the source of infection ought to be removed. The incision should not be a large one and should be made over the site of the lesion. In pelvic cases a median incision below the umbilicus is the one generally employed. There ought to be as little handling of the viscera as possible. This is specially important in puerperal cases owing to the degree of collapse so often present. Some make only one incision, others such as Bumm make several counter openings. Fluid should be evacuated with as little swabbing as possible.

Most operators now dispense altogether with washing out. In peritonitis, due to a pelvic lesion, the inflammation at the time of operation may not have extended to the upper reaches of the cavity. To flush out the abdomen in such a case is to run the risk of infecting fresh surfaces. In determining this question of washing out or not, the procedure advocated by Wilkie might be more generally followed. He advises that a rapid microscopic examination of the exudate be made. If most of the organisms are intra-cellular, no washing out is required, but if many are extra-cellular and the cells are degenerated, flushing with sterile water or saline will do good.

Drainage should be established through the lower end of the wound. A large rubber tube or two or three placed side by side have given us the best results. One of the tubes may be split in a spiral manner and a strand of gauze placed inside. As regards drainage through the vaginal roof it is good where there has been a collection of pus in the pouch of Douglas or some definite pelvic lesion, but for drainage of the general peritoneal cavity we think its importance has been exaggerated. We have found that in cases where drainage through the abdominal wound and through the posterior vaginal fornix has been employed, the amount of discharge from the latter is less and ceases sooner than from the former. One would naturally think that gravity would make vaginal drainage the more effective of the two. But the tube in these cases seems to be compressed and blocked by the pressure of the viscera and efficiency is also interfered with by the formation of adhesions. For these reasons we think it best to rely on abdominal drainage alone, except in cases where, as stated before, there is a definite focus of infection in the pouch of Douglas or its neighborhood. If vaginal drainage is employed the tube may be removed in a few days, and in most cases it will not be necessary to reinsert it. It is not wise to distress a patient by trying to force a tube through a rapidly closing vaginal opening if abdominal drainage is efficient.

If at the end of the operation the patient is collapsed, saline should be given intravenously. A much quicker reaction is obtained by this means than by the interstitial or rectal methods. In the after-treatment repeated saline rectal injections we have found more easily managed than continuous irrigation.

There are many aspects of this subject which, in the time at my disposal, I have been unable even to mention, but the speakers who are to follow will doubtless deal with some of those.

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Selected Articles

TRUE AND FALSE GASTRIC DYSPEPSIAS

BY DR. ALEXANDER CAWADIAS.

Chief of the Clinique attached to the Faculty of Medicine of Paris.

Boas demands in his treatise on the subject that the chapter dealing with "Chronic Dyspepsias" in works on diseases of the stomach should be suppressed. The suggestion would be a judicious one (a) if authors took care to describe in their treatises morbid entities only. For dyspepsia cannot, in fact, be truly considered in the light of a morbid entity. But it, nevertheless, preserves a considerable value while regarded as a *functional syndrome* of troubles associated with gastric digestion. This functional syndrome is connected with a derangement of the nervous system of the stomach—or, is it really dependent in every case on the presence of a gastric lesion (Hayem and Lion)? These are questions of pathogeny which we do not propose to attack. Our present aim is to determine clearly this functional gastric syndrome—dyspepsia—to separate it from the false gastric syndromes; the false gastropathies of Deperine; the psychogenous dyspepsias of Strumpell.

1.—TRUE DYSPEPSIAS.

A great deal of confusion prevails in the descriptions of dyspepsias, properly so-called; that is to say, functional troubles of the gastric digestion. Some authorities decompose this syndrome into numerous constituent elements. They describe separately: hyperchlorhydria; the hypersecretion of fasting or syndrome of Reichmann; the hypersecretion of digestion or syndrome of Boas; hypochlorhydria; apepsia; spasm of the pylorus; gastric atony; gastralgia; etc. Others following the example of Professor Robin, arrange these elements in groups. The functions of the stomach are, in fact, inseparably bonded, in the pathological states as well as in the normal. To excess of functional activity (motor, sensory, secretory) corresponds the hypersthenic dyspepsia in which we have to deal with hyperchlorhydria (sometimes the syndromes of Reichmann and of Boas), pyloric spasm or gastric hyperkinesis, and acute pains. Hypochlorhydria, combined with gastric atony, constitutes hyposthenic dyspepsia.

Finally, the old flatulent dyspepsia—Robin's dyspepsia of fermentations—which are frequently complicated by the accompaniment of aerophagia, constitutes the third dyspeptic syndrome. These are, as we now see, true dyspepsias. By the exact procedures which we now possess for exploration of the stomach, we find *real* alterations of the functions of that organ. The *gastric* treatment (*regime*, alkalies, bitters—according to the type of dyspepsia) constitutes the principal agent in the cure of those conditions.

Now, as the result of a regrettable confusion, we apply *a propos* of those cases the term "nervous dyspepsias," and we endeavor to relegate them to the domain of neurology. This name, nervous dyspepsia, is not a suitable one. It is a term which presumes a pathogeny that has not been demonstrated, and which does not correspond to the reality, either clinical or therapeutic. For the former of these teaches us that *real* gastric troubles co-exist in those gastric syndromes, while the latter demonstrates the fact that gastric treatment is that which, above all others, succeeds in those cases. Let us then make the diagnosis of true functional dyspepsia, determine its type, and treat it accordingly. We shall then have the advantage of treading on the firm ground of functional diagnosis and not on the more slippery one of pathogenic diagnosis. And, on the other hand, we shall avoid the danger of confusion with the following syndrome.

2.—FALSE DYSPEPSIAS.

This syndrome differs from the preceding. It belongs, in reality, not at all to the domain of digestive pathology, but to that of psychiatry. As it is on this point that recent discussions have been brought to bear, we consider it worth while to give a complete description, in the light afforded by the works of Strumpell and Dejerine, as well as that of our own personal observations. An emotional derangement, or a series of *chagrins* and of *ennuis* are found at the basis of this syndrome, which is found to develop in those who are predisposed to neurosis, and in asthenic subjects. The attention of the patient is directed to his stomach by vague digestive trouble, or by intercostal or cutaneous abdominal neuralgias. He believes that he has been attacked by some gastric affection (they are so frequent, everybody speaks of them). From that moment the troubles are definitely outlined. The appetite is modified; it becomes capricious, sometimes exaggerated, sometimes greatly diminished; gastric pain and feeling of weight develop. In some cases these last all day long; in others they supervene directly after a meal, or even at quite

irregular periods. These symptoms are vague, and even the volubility of the patients fails to succeed in defining them precisely. But even in the midst of this chaos of subjective troubles, we are able to distinguish the following general characteristics: These phenomena are at first irregular as regards character and time of appearance. They have no direct relationship to the alimentation. They are accentuated by *chagrins* and emotions, while pleasures and distractions cause them to disappear. One of our patients suffered from racking pains at the level of the epigastrium after each meal. She was obliged to take to bed and have recourse to the use of various sedatives. . . . But when she dined in the City she experienced no inconvenience. Some patients display very pronounced nervous reactions (sense of suffocation, abnormal and bizarre sensations, loss of consciousness). We frequently find at the same time, anxiety, anguish accompanying the false gastric sensations. Examination of the stomach by the procedures of functional exploration demonstrates the integrity of that organ. We may perhaps make an exception as regards gastric chemism. In this domain we do find modifications, but these are irregular (hyperacidity of gastric juice to-day, while it is normal on some other days), and always *slight*; a fact which, having regard to the imperfection of the actual procedures in our study of gastric chemism, obliges us not to accord them a great importance.

But when we find the chemical troubles accentuated and permanent, it will be necessary to reserve our diagnosis. In such cases we have to deal with true symptomatic dyspepsias, with neurasthenia, and not with false gastropathies. The proof of this fact is that psycho-therapeutic treatment fails to suffice, and it will be necessary to watch over the state of the stomach and the alimentation of the patient.

In way of resuming, those "false gastropathies" are really psychic syndromes. They take their origin from auto or hetero-suggestion, and may be made to disappear as the effect of a course of psychotherapy by *persuasion*. They are the characteristics which are attributed by M. Babinski to pithiatic phenomena, whence the term pithiatic (or hysterical) dyspepsias by which we propose to designate them.

In order to arrive at a diagnosis of these false gastropathies, it is necessary to examine the stomach with great care. Such examination is repudiated by Professor Dejerine from the fear of turning the patient's attention too much in the direction of the digestive apparatus. We have been able to establish the fact that a thorough exploration is not dangerous; we are enabled to persuade a patient that he suffers from no grave lesion of the

stomach when we have made a thorough examination of his digestive tube; while, on the other hand, by neglecting exploration by the precise modes of procedure which we now actually possess, we run the risk of taking for psychogenous dyspepsias, those forms which are real and even symptomatic—and also gross lesions of the stomach, gastritis, ulcer. We may say of pithiatic dyspepsias, in way of analogy, what has already been said of hysteria in general: it is unnecessary to adopt this diagnosis except in those cases in which every real affection of the stomach has been thoroughly eliminated by the minutest possible examination. In carrying out numerous examinations, radiosopic, chemical, and coprological, we have been struck by the discovery of real troubles of digestion in patients presenting the clinical characteristics of false gastropathies. And the results of therapeusis have confirmed those of our examination; for without the adoption of rest and appropriate *régime*, those patients were unable to recover.

Among the false gastropathies, and side by side with pithiatic dyspepsias, we propose to range their gastric malingerers. These simulate disease of the stomach in order to attain a special object. Such is the case of a young collegian (analogous to that cited by Mathieu and J.-Ch. Roux) observed by us; he vomited voluntarily after meals in order to be released from attendance at school. Severe corporal punishments would have promptly rationalized that case, which caused great distress to the parents during two whole years. We can easily perceive the difference between those true simulators and the demi-simulators (to make use of M. Babinski's term), the pithiatic patients, who, by a morbid and almost unconscious tendency to imitation, present the tableau of psychogenous dyspepsias that we have just been tracing.

3.—RELATIONS BETWEEN TRUE AND FALSE GASTROPATHIES.

The pathogeny of these conditions is obscure. It would be quite too simple to speak of dyspepsias of nervous, cortical origin; and dyspepsias of bulbar or sympathetic origin, and to group the whole under a heading of gastro-neurosis or nervous dyspepsia. That would constitute a reversion to the old theories of the imperialism of the nervous system which was promulgated by Cutten. The frequency of these syndromes can be variously appreciated while still remaining within the domain of observation. Among consultations with nervous individuals, we specially note the frequency of false gastropathies. Thus the neurologists, such as Dejerine, Dubois of Berne, admit that the majority of dyspeptics are to be found among the psychic sub-

jects (no less than 90 per cent. according to Dubois). In the *Consultation du tube digestif* controlled by Professor Chantemesse, we find, on rejecting doubtful cases, not more than 4 per cent. of purely psychic dyspeptics. But our material differs, of course, from that of the Salpêtrière; while, on the other hand, too, we have systematically explored the gastric functions in each of our patients—with the result that the statistics of the two groups are not at all comparable.

The cases most frequently met with are the neurasthenic, the psychopathie; who present genuine gastric troubles, which are exaggerated in their clinical manifestations by the psychic condition of the patient. But we do not propose to dwell on those cases. We are considering the description of the functional syndromes only; and without discussion of the ætiological types of dyspepsias. In this domain lies another chapter of pathology. However this may be as regards frequency, the clinical division between these two syndromes persists none the less, and gives us precise indications for the prognosis and the treatment. As regards the prognosis, we do not forget that the false gastro-pathies are associated with a special mental state; and it is on the latter that the evolution of the affection depends. With regard to the treatment (so far as the therapeusis of functional troubles is concerned, we do not consider the treatment of the cause from which the syndrome proceeded) true dyspepsia will be treated according to the classic rules which are to be found in the recognized treatises.

Psychogenic dyspepsia will be modified by the employment of psychotherapy by persuasion, such as we find described in the recent works of Dejerine and Gauckler, and of Thomas. Then we insist above all things that our patients should regulate their diet; for it is among them that we find so highly accentuated those phenomena of voluntary inanition which have been described in dyspeptic cases by Mathieu and J.-Ch. Roux. It is desirable to diet those patients suitably without having recourse to the processes of cure by super-alimentation which are extolled by the German and American practitioners.

We now see the interest which is presented by this division of dyspepsias, from the practical point of view. By determining with the aid of a thorough functional examination what the type is of the functional trouble with which we have to deal, we attain a firm grasp of the important indications for treatment. And in the matter of dyspepsias, it is desirable to recall the saying of Sydenham: "It is not the medications that are defective, it is that the knowledge of the indications is imperfect."—*The Medical Press*.

Progress of Medical Science.

OBSTETRICS AND GYNAECOLOGY

IN CHARGE OF ADAM H. WRIGHT, K. C. M'ILWRAITH, FRED.
FENTON, AND HELEN MACMURCHY.

Urodiagnosis and Uroprognosis by means of Perchloride of Iron in Severe Vomiting of Pregnancy

V. Le Lorier (*Bull. de la Soc. d'obst. et de gyn., de Paris*) finds that in cases of severe vomiting of pregnancy one may, by certain tests of the urine, predict whether the attack will be fatal or so severe as to necessitate the induction of premature labor. By the test of perchloride of iron applied to the urine we get a reaction with acetyl-acetic acid in distilled water. The gravity of the vomiting is in relation with the intensity of the color reaction. When intense acidosis appears in the course of pregnancy it is not illogical to suppose that intravenous injections of alkaline water containing carbonate of soda may be employed and give good results in the neutralization of the circulating acid.

Toxic Origin of Hyperemesis Gravidarum

L. Seitz (*Deut. med. Woch.*, April 11th, 1912), considers that the main cause of hyperemesis gravidarum is a toxic condition similar to that which produces eclampsia and acute yellow atrophy of the liver, and that the part played by psychic conditions and a host of local abnormalities—such as retroflexion, adhesions, erosions, and endometritis—has been much overrated. The teaching of the psychic origin of hyperemesis, which the Ahlfeld-Kaltenbach school defended, was based on the observation that treatment by suggestion effected improvement and even recovery in many cases. But this teaching, which labels the vomiting of pregnancy as a mere expression of hysteria, fails to explain its frequency in mentally robust women without a taint of hysteria or other allied condition. Besides, this complication occurs in every other pregnancy, and sometimes ends in death, which is an unknown sequel to hysteria alone. The psychic teaching was seriously challenged in 1892, when Lindemann demonstrated the gross anatomical lesions present in cases which terminated fatally. Subsequently, English and American workers have recorded similar observations, and more recently Seitz attended a case which ended fatally in spite of the

induction of abortion two days earlier. The necropsy showed that the organ most seriously involved was the liver, in which parenchymatous and fatty degeneration, and infiltration with necrosis of the hepatic cells, were observed. The kidneys also showed necrosis and changes characteristic of acute parenchymatous nephritis. Such changes, which must clearly be independent of purely nervous factors, resemble in many respects those which poisoning with phosphorous or chloroform causes. They also resemble the changes observed in acute yellow atrophy of the liver and eclampsia. Now, from one-third to a half of the number of patients suffering from the former disease are pregnant and their livers show marked diminution in volume and fatty degeneration or complete necrosis of the acini. Both in this disease and in hyperemesis gravidarum there are cerebral disturbances, such as excitation and delirium. Cutaneous hæmorrhages and jaundice are also common to both, but while the latter is usually slight in hyperemesis gravidarum, it is, as a rule, severe in acute yellow atrophy of the liver. There may also be several other minor differences noticeable, yet the pathological changes are often so much alike in these diseases that they are scarcely distinguishable from each other. The number of cases of hyperemesis gravidarum which are so severe as to resemble cases of acute yellow atrophy of the liver are far commoner than the scanty observations on this matter would suggest. Hyperemesis gravidarum, again, resembles certain forms of eclampsia, with the severe forms of which slight jaundice is frequently associated. In eclampsia, too, the liver is often tender, the necropsy showing extensive hepatic disease. The association of hyperemesis gravidarum with such conditions as jaundice, hæmoglobinæmia, neuritis, ptyalism, purpura, and small multiple hæmorrhages into the tissues, is also indicative of a toxic state. Further, it is evident, if the fatal cases of hyperemesis gravidarum show extensive disease of the liver, kidneys, and other organs, that the slighter forms are also accompanied by similar changes which are less marked, and from which the patient accordingly recovers. The writer points to the success achieved by the treatment of hyperemesis gravidarum with intravenous injections of serum drawn from healthy women, and he argues that this is a further proof of the toxic origin of the disease. He admits, however, that psychic influences may play a subsidiary part, and that treatment by suggestion may cure slight cases, for the sensitiveness of the vomiting centre to suggestion can be demonstrated by provoking nausea with the aid of distasteful conversa-

tion. But psychic influences alone seldom or never cause hyperemesis in the violent form sometimes seen in pregnancy. As small quantities of apomorphine injected subcutaneously irritate the vomiting centre, so do the unknown chemical bodies formed in the course of pregnancy, and in both cases the sensitiveness of the vomiting centre is sufficiently increased for psychic and other minor factors to precipitate an attack of vomiting.—*British Medical Journal*.

Treatment of the Excessive Vomiting of Pregnancy

James H. Martin, M.D.—While the writer was senior house surgeon in the Glasgow Maternity and Women's Hospital 17 cases of the excessive vomiting of pregnancy were admitted. All the patients had for several weeks been treated with the usual "stomach drugs," and in two cases rectal feeding had been tried without improvement. One patient was admitted very ill and died. She could retain nutriment neither by the mouth nor the rectum.

The history was carefully gone into. A thorough examination was made, particular attention being paid to the alimentary canal, vagina, uterus, and appendages. Bad teeth and chronic constipation were found associated in every case.

The patient was strictly confined to bed. The stomach was washed out thoroughly with warm water at a temperature of 100°. The large quantity of mucus obtained was surprising. Sips of cold water were allowed that night, and an enema of soap and water was administered. For several days the patients were put on peptonized milk and milk and soda, and were thereafter given little diet. The patients were not allowed up until they had been on light diet for 2 days. A powder containing 1 grain of mercury—with chalk and 3 of sodium bicarbonate was given thrice daily. For chronic constipation, in conjunction with the above powder, magnesium sulphate in hot water every second morning proved the best aperient. If a satisfactory motion was not obtained, then a soap and water enema was given. For the septic condition of the mouth a wash of carbolic acid solution 1 to 80 was used frequently and always immediately before and immediately after food.

This treatment was quite successful in the 16 cases, the average duration of residence in the hospital being 17 days. One patient was treated for about 10 days with the text book drugs without improvement. She was then treated as above and at once improved. She had no return of vomiting and went to

term. In another case there was retroversion of the uterus with tendency to prolapse; the uterus was not interfered with and she made a complete recovery. In 5 cases there was a well marked acetone odor.—*The British Medical Journal*.

Should Eclamptic Mothers Nurse their New-Born?

Goodall, of Montreal, thinks as follows:

1. In a mother profoundly toxæmic and jaundiced, I think it will be well to feed artificially for quite a few days, and have the breasts pumped dry once or twice after the maternal toxæmia has improved and before the child is allowed to nurse.

2. If the maternal convulsions come on post-partum (these are the most dangerous cases for the nursing infant) then allow the maternal elimination to go on until she is freed from the greater part of her toxæmia and then empty the breasts before allowing the child to nurse.

3. If the albuminuria persists after gestation, it will be well to feed artificially throughout.—*Amer. Jour. of Obst.*

Outdoor Treatment of Puerperal Infection

For the past five years outdoor treatment of puerperal infection has been the routine in the Boston City Hospital. This E. B. Young and J. T. Williams (*Boston Med. Surg. Jour.*, 1912, clxvi, 405) report as having reduced the mortality from 44.6 per cent. to 24 per cent. They say that this treatment probably exerts its action chiefly by increasing the amount of hæmoglobin in the blood. Sunlight is probably quite as important as fresh air. Curettage is contraindicated in puerperal infection, because it increases the mortality nearly 10 per cent. A single intra-uterine douche of sterile salt solution should be the only local treatment, and some writers deny the value of even this. Anti-streptococcic serum and vaccines have not proven of much value. The outdoor treatment is the most effective known at present for puerperal infections.

OPHTHALMOLOGY AND OTOTOLOGY

IN CHARGE OF MORTIMER LYON, M.D.

Salvarsan in Syphilitic Eye Lesions

Dr. Marple, of New York, deprecated premature conclusions as to the value of Salvarsan in eye work. He said it acted very well in specific iritis, with gumma of the iris.

Dr. Igersheimer (Halle) agreed with Dr. Marple. He claimed good results in interstitial keratitis by the use of more than one injection of Salvarsan.

Mr. S. H. Browning (London) said he had had a measure of success in treating sympathetic ophthalmia with Salvarsan when the blood count showed the patients to be suffering from protozoal diseases.

Dr. A. Maitland Ramsay used mercury with Salvarsan in treating syphilitic eye troubles with good result. He also urged careful attention to local treatment at the same time.

Mr. Bishop Harman (London) had seen no deleterious effects on the optic nerve from Salvarsan. He had seen no advantage of its use in interstitial keratitis, but had in some acute syphilitic eye conditions.

Mr. Inglis Pollock and Mr. Nimmo Walker advised great caution in the use of Salvarsan, and cited cases where it has had harmful results.

Dr. Antill Pockley (Sydney, N.S.W.) mentioned the case of a doctor becoming accidentally inoculated with syphilis at a confinement, and showed marked secondary symptoms and meningitis. A few months later he came to him a physical wreck—nearly deaf, and with vision so poor he could hardly see a chair. He had acute serous iritis, with high temperature. In one day after an injection of 0.5 gms. of Salvarsan his eye was clear, tension normal, and he could read a newspaper. The deafness was also gone. However, he died in three months from other syphilitic sequelæ.

Reise, in the *New York Medical Journal*, concludes:

1. Salvarsan is a powerful symptomatic remedy for the treatment of luetic eye lesions.

2. It certainly merits attention, especially in combination with mercury and iodine.

3. Its action is more rapid than that of mercury, but it should not replace that valuable remedy, except in selected cases.

4. It should be given intravenously for quick action, and for the comfort of the patient.

5. It should not be given in simple spinal, non-inflammatory atrophy of the optic nerve.—*Therapeutic Gazette*.

Dr. Theobald, in the *Johns Hopkins Bulletin*, Nov., 1911, states that whatever be the explanation—whether due to their chemical composition, the greater freedom with which they are used, or their supposedly greater penetrating power, there can be no doubt that the organic compounds of silver—argyrol, protargol, etc., are responsible for many more cases of conjunctival argyria than ever was or is silver nitrate.—Head: "A Protest Against the Indiscriminate Use of the Organic Compounds of Silver." *American Practitioner*.

Trachoma

Pachopos reports good results from injections of 1 c.c. fresh diphtheria anti-toxin under skin and conjunctivæ of eyelids after cleansing.—*American Practitioner*.

Treatment of Atrophic Rhinitis

D. D. Willecox, of Petersburg, Va., reports two cases of atrophic rhinitis which he treated with a spray of a 3 per cent. solution of dionine. In the first case, a child of 5 years, he personally cleansed the nasal cavities of all scabs and other secretions, after which the parts were thoroughly sprayed with the dionine solution. The mother was then directed to spray the nose morning and night with a saturated solution of boric acid, followed by the spray of dionine. When first seen, the atrophic conditions had destroyed the adenoid tissues, although the breathing space was practically normal, due no doubt to the patient's age, the atrophic processes not having had time to work as much destruction to the turbinates.

The second case was that of a young man of eighteen. His treatment was the same, and his recovery complete, so far as the scabs and secretions were concerned. His breathing space was somewhat larger than normal on account of the atrophied turbinates.

Each of the patients was under weight, anæmic and possessed limited breathing capacity, but otherwise showed no signs of tuberculosis. Hematinics with milk and eggs were used in each case. The author continues treatment two months after the disappearance of all scabs and tenacious mucus.—*Virginia Med. Semi-Monthly*, Sept. 13, 1912.

Editorials.

TORONTO ACADEMY OF MEDICINE

The leading editorial in the January issue of the *Canadian Medical Association Journal* respecting the Toronto Academy of Medicine caused in certain quarters surprise, in others consternation, in others indignation, and in others profound sorrow. Perhaps it was considered wise by some, but we have not met any one who holds such an opinion. So far as we know a majority of the profession in Toronto think that this article cannot possibly do any good, and will probably do much harm. We are quite in accord with part of the editorial, and we happen to belong to that portion of the Academy "who regret the incident, and resent the unpleasant notoriety given to the affairs of the profession." Because we considered the incident regrettable, and because we "resented the unpleasant notoriety" given to the matter we decided to refrain from comment.

We regret exceedingly that the official organ of the Dominion Association should have seen fit to add to the "unpleasant notoriety" in a very objectionable way. Angry and foolish declamation will only make matters worse. The writer goes so far as to advise the physicians of Toronto to endeavor to kill the Academy. He tells us: "There is no remedy save for good men to withdraw from membership, and for good men who are not members to decline to become candidates." This is a very serious matter. An editor of what was formerly the *Montreal Medical Journal*, a resident of Montreal, jumps bodily into a

Toronto muddle, and deliberately advises us to destroy the finest medical organization which exists in Canada. Is it remarkable, under the circumstances, that the physicians of Toronto *resent the interference of the man from Montreal?*

We make this reference to local prejudices with considerable reluctance, because we have not, as a rule, much sympathy for anything of the sort; but we should be foolish to close our eyes to the fact that they exist. It happens that we admire the editor, and our high regard for him makes the writing of an editorial on this matter a painful task.

MEDICAL INSPECTION OF SCHOOLS

The medical inspection of children in our public schools is accomplishing much good, but, unfortunately, is creating a considerable amount of ill-feeling. The medical inspectors and nurses should endeavor to do their work thoroughly, but, at the same time, they should show some tact and good judgment. We are told by the inspectors that in certain cases the parents of diseased children refuse to provide proper medical or surgical treatment for them. When it is considered that the health of the children is endangered the cases are referred to the Juvenile Court, presided over by Commissioner Starr, who is generally considered a conscientious and upright judge. We understand that in this Court the parents are given the option of taking their children to specialists, or paying a fine, or going to jail. However, before doing anything which might appear harsh or unjust, information is given to the parents respecting the

various clinics connected with hospitals or dispensaries, where treatment will be carried out without charge for those unable to pay.

We are told that the Commissioner claims to derive his authority from a certain paragraph in the Criminal Code which states, so far as we understand it, that a parent is "criminally responsible for omitting to do his duty" to his child if the health of the latter "has been or is likely to be permanently injured by such omission." We have no inclination at present to discuss in detail this very complex and very serious case, although, so far as we know, it is not *sub judice*, as the verdict of the court has been delivered and there has been no appeal as yet. We may say, however, that we cannot believe that the law makers who framed this "Code" intended the courts to consider that the refusal of a parent to allow tonsils and adenoids to be removed from his child is a criminal act.

TYPHOID FEVER IN OTTAWA

The beautiful city of Ottawa has suffered terribly from typhoid fever during the last 12 years. During the decade from 1901-10 there were 200 deaths from typhoid fever. The recent epidemics of 1911-12 have been far more serious than those which occurred before. During the summer of 1910 various investigations were made, and on the 5th of October of that year, Mr. Hazen, an eminent expert from New York, sent a report to the Council of Ottawa City recommending among other things a hypochlorite treatment of the water. The authorities of that city, however, neglected to carry out his recommendation.

Early in March, 1911, at the instance of the Honorable Clifford Sifton, Chairman of the Commission of Conservation, an investigation as to the causes of the typhoid fever was undertaken. The co-operation of the Provincial Board of Health of Ontario was sought, and in response Dr. J. W. S. McCullough, the Chief Officer of Health, went to Ottawa to assist the investigators. He subsequently detailed Dr. R. W. Bell, Medical Inspector of Health in Ontario for this special work. By permission of the Minister of Militia, the services of Colonel Jones and Major Drum were loaned to co-operate in the work of investigation. Others who assisted in the investigation were Mr. Ker, City Engineer; Dr. Law, Medical Health Officer of Ottawa; Mr. Henderson, City Clerk, Mr. Grisdale, Director of Experimental Farms; Mr. Dick, Mining Engineer, and others.

A second thorough investigation was made by a Committee composed of Drs. Hodgetts and Bell, Col. Jones and Major Drum. We learn from that report which we received through the kindness of Dr. Hodgetts that the immediate cause of the typhoid epidemic which began in Ottawa, January 1st, 1911, was the infection of the water supply by polluting matter coming mainly from the south shore of the Ottawa River. A positive opinion was expressed that the outbreak would have been obviated if the hypochlorite treatment had been immediately installed after its recommendation by Mr. Hazen.

We are unable to give the exact figures in connection with this epidemic of 1911, but we learn from this report that 900 cases were investigated before March 18th, and that 52 had died from typhoid fever before that date. After that date very many deaths from typhoid fever were reported.

WATER SUPPLY OF OTTAWA

After the second serious typhoid epidemic in Ottawa, Dr. Chas. Camac, of Columbia University, wrote a very interesting monograph on the Ottawa Typhoid Epidemics at the request of the Commission of Conservation. He did not exactly state that the 156 persons who died of typhoid in the two epidemics were murdered by Ottawa civic negligence, but he said that the epidemics were caused by failure to supply two things necessary to the health of that community—pure water and proper drainage.

We have already referred to the report of one committee which worked under the direction of the Commission of Conservation. We may say that another committee composed of Mr. Hazen, Mr. Keefer, Dr. Hodgetts and Dr. McCullough acting under instruction from the Ottawa City Council presented a very carefully prepared report. After the second serious epidemic of 1912 Mr. Hazen was asked to prepare a complete report on a water plant for Ottawa. This report was considered and endorsed by the Ontario Board of Health. It was also accepted by the Corporation of Ottawa subject to ratification by the citizens. According to this scheme the water was to be taken from the Ottawa River, north of the Lemieux Island, and elevated about 30 feet by centrifugal pumps driven by electricity to coagulating basins. From the coagulating basins the water would pass to filters of the mechanical type; from the filters the water would pass to certain reservoirs; from these reservoirs the water would pass to a pump station situated on Queen Street. One of the most important things in connection with this scheme was the pro-

posed construction of a tunnel under that portion of the river between Lemieux Island and the City of Ottawa.

While it would appear that the people of all other parts of Canada were considerably shocked by the results of these epidemics with their terrible mortality rates, the citizens of Ottawa did not appear to be much concerned about the matter, and do not apparently care whether or not any remedy is provided. At the municipal election of New Year's Day the ratepayers of Ottawa rejected Mr. Hazen's scheme in its entirety. What now will be the outcome no one appears to have any idea.

THE HEALTH OF NAPOLEON

Dr. Arnold Chaplin, of Glasgow, has published a very interesting brochure on "The Illness and Death of Napoleon Bonaparte." He makes one statement which, however, is incorrect. He says that up to the time of his detention at St. Helena, Napoleon had enjoyed the most uniform robust health. From all the evidence we can gather it would seem that Napoleon was never healthy, either as a boy or a man. He suffered all his life from dysuria, and at the Battle of Borodino was so bad that riding caused considerable pain, in consequence of which he had to be placed under the influence of opium. In his boyhood days he had tuberculosis, which was probably not diagnosed at the time. He was always subject to constipation which was aggravated by his great objection to taking medicine of any sort. In 1809 he became stout to such a degree that it impaired his

activity. In 1812 there was a more notable degeneration. In his last campaign in 1815 he could scarcely sit on his horse in the battle-field. He had at that time attacks of vomiting followed by lethargy and stupor amounting almost to actual unconsciousness. These attacks gave rise to the suspicion that he was epileptic. *The British Medical Journal* in commenting on his illness at St. Helena from 1815 to 1824 when he died, speaks as follows: "Of all the deaths recorded in history there is none more tragic in itself and more shameful in its circumstances than that of the First Napoleon. There can be no doubt that for this the blame rests largely if not wholly on the British Government of the day. They refused to believe almost to the last moment that he was seriously ill, and the medical attendants they supplied were of the most unsatisfactory kind. The immediate cause of death, found on post-mortem examination, was gastric cancer affecting the lesser curvature of the stomach, which was ulcerated from the cardiac orifice to within an inch of the pylorus. There were also in the upper part of the left lung scattered tubercles, some small excavations and suppuration of the bronchial and mediastinal glands. There were also calculi in the bladder and evidence of disease in the coats of that viscus."

ENGLISH SPEAKING CONFERENCE ON THE PREVENTION OF INFANT MORTALITY

We shall shortly publish the official announcement of this important conference which is to take place in London on August 4th and 5th, two days before the meeting of the International Medical Congress. The

King and Queen have graciously consented to be the patrons. The President is the Rt. Hon. John Burns, President of the Local Government Board, and the Conference is being organized by the British National Association for the Prevention of Infant Mortality and for the welfare of infancy, with the assistance of the American Association for the Study and Prevention of Infant Mortality. Among those actively associated with the work, preparing the programme and otherwise promoting the success of the Conference are Sir Lauder Brunton, Sir Thomas Barlow, Dr. James Kerr, Alderman Benjamin Broadbent, Dr. Erie Pritchard, Dr. Jane Lane-Claypow and others. We hope that there will be a good representation of Canadians at this Conference.

OUR PRESENT KNOWLEDGE OF NEPHRITIS

Modern research has shown that the output of the kidney depends much more upon the biological functional condition of the organ than upon its histology. When first the kidney is injured, it works overtime, so that the quantity of urine is increased. This is followed by exhaustion, when the total amount is small, or even nothing at all, and between these two extremes we have an apparent normal quantity. Many puzzling cases of nephritis can be explained if these points are borne in mind. The pseudonormal stage can be discovered by the low specific gravity, or by testing the function of the kidney with milk sugar or potassium iodide. Forty grains of lactose are given to the patient, who has abstained from sugar for 24 hours, and the urine is tested with Fehling's

solution one hour later. A normal person gives a negative result.

In ordinary contracted kidney, the blood vessels suffer most, and are hyperirritable, hence the polyuria. In chronic parenchymatous nephritis, however, the vessels are also involved, but they do not produce the same irritation. During the stage of hyperirritability, a small dose of a mild diuretic, as potassium citrate, produces copious diuresis, with an increase in the amount of salt. Contracted kidney, with normal urine, on the other hand, is distinguished by the delay in the elimination of milk sugar and by the increased diuresis after potassium citrate.

From these considerations one can see the folly of administering diuretics as a routine in interstitial nephritis, for the kidneys are already overstimulated, and such measures lead only to exhaustion.

F. A. C.

THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE

This important Congress meets in London, England, August 6th-12th of this year. There is every evidence that the meeting will be of more than ordinary interest, especially to the profession in Canada, to whom many courtesies have been shown in the selection of the officers of the Congress.

For the benefit of those attending we are able to announce that special transportation arrangements have been made with many of the Atlantic steamship lines, both Canadian and American. In general it may be said that superior accommodation at the minimum rate is being offered to members of the

Congress on production of their cards of membership. So far the Canadian Pacific, Royal, Allan, Cunard, White Star, North German Lloyd and Hamburg-American lines have offered such terms, and we have reason to believe that others will do the same.

Those crossing the Atlantic this summer will assuredly find it to their advantage to go as members of the Congress, and to this end they may obtain blank forms of application for membership by writing to the Secretary of the Canadian Committee, Dr. W. H. B. Aikins, 134 Bloor St. West, Toronto.

EDITORIAL NOTES

In connection with the International Congress of Medicine, which meets in London in August, Dr. John Ferguson, 264 College Street, Toronto, is forming a party to attend the meeting. Reserve accommodation has been secured on the "Royal Edward," leaving Montreal on July 23rd, due to arrive at Bristol and London on July 30th. Superior arrangements at very special rates have been made, and no doubt a large number will avail themselves of this opportunity. Dr. Ferguson will be pleased to give further particulars to anyone interested.

Toronto General Hospital

It is expected that the new General Hospital in Toronto will be opened for patients about May 1st. The site on which it is situated at the corner of College Street and University Avenue comprises nine acres. It is generally conceded that the new hospital will be one of the best constructed and best equipped institutions in the world.

It is hoped there will be accommodation for 660 patients as compared with 400 in the present building on Gerrard St. east. There will be 400 beds in the public wards. On the roof of the main building on College Street there will be a ward for the patients who are expected to derive benefit from open air. When completed the institution will have cost about \$3,300,000. To meet this the trustees want about \$900,000, in addition to what has already been received.

New Detention Hospital

We are told by the *Toronto Globe* that Dr. R. W. Bruce-Smith, Inspector of Prisons and Public Charities, has intimated to Controller McCarthy that if the City of Toronto provides a site for the proposed Detention Hospital and Psychiatric Institute in close proximity to the University of Toronto, the Ontario Government may erect and maintain the building. It is thought that the Government will not do so if the Industrial Farm on Yonge St. is chosen by the city as a site. Some time ago the City Council voted to provide \$100,000 for a site for the proposed hospital for the detention and treatment of incipient cases of insanity.

The Welfare of Infancy—Great National Movement

Their Majesties the King and Queen have graciously lent their patronage to the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy. The foundation of this Society is the outcome of a public meeting held last July at the Caxton Hall under the presidency of Mr. John Burns. It represents a Triple Alliance between the National Conferences on Infant Mortality, the National League for Physical Education and Improvement and Its Department, the Association of Infant Consultations and Schools for Mothers, and the Women's National Health Association of Ireland.

Mr. John Burns is the President of the new Association, while Sir Thomas Barlow is the first Chairman of its Executive Committee. The latter consists of 12 representatives of statutory administrative authorities, 12 medical officers of health, 12 members of the medical profession actively engaged in clinical practice, and 12 representatives of various societies actually engaged in carrying on work for the welfare of mothers and babies. It is confidently anticipated that local authorities and their medical officers of health will continue that active support and help in this great work which they have so readily given to the previous conferences. As an earnest of the important work the newly constituted Society proposes to carry on, it has already arranged to hold in London a post-graduate course on the feeding and care of infants. This course, which fulfils a long-felt want, will be held in London from the 6th to 16th of January next.

The Executive Committee is now actively engaged in organizing an English-speaking Conference on Infant Mortality, which is to be held in London on August 4th and 5th next, a date which immediately precedes the International Medical Congress. In addition to expert authorities in England, delegates from the overseas Dominions and America will take part in the Conference, and it has been decided to hold it in two sections, so that the subjects included in the programme may be dealt with, both from the administrative and medical sides.

Further particulars with respect to the Association, membership in which is open to all who sympathize, or of the post-graduate course and the Conference may be obtained from Miss Halford, Secretary to the Association, 4 Tavistock Square, London, W.C.

THE MUSEUM AT THE SEVENTEENTH INTERNATIONAL CONGRESS, 1913

A committee, with Prof. A. Keith, of the Royal College of Surgeons, as Chairman, has been formed for the purpose of organizing a museum in connection with the XVIIth International Congress of Medicine, London, 1913. The arrangements have been entrusted entirely to this committee, and it has been invested with the power of acceptance or refusal of any offered exhibit.

It has been recognized that the collection of material illustrative of recent advances in medical science in one centre possesses obvious advantages over the plan of leaving each section to collect and house the specimens and other material required by the readers of papers for their communications, separately. A central museum offers to a large number of members of the Congress an opportunity of studying these advances from the available material, and this study is enhanced by the co-ordination of the various departments.

The committee has drawn up regulations which shall govern the Museum and is following a plan of procedure. The Museum will consist of exhibits illustrating the subjects which will be discussed in the various sections and such other material as the committee may deem of interest or importance. The specimens will embrace the scientific side of medicine, to the exclusion of a commercial element. Excellent accommodation has been secured for the purpose at the Imperial College of Science, South Kensington, and the Museum will be arranged in this place as far as is possible in correspondence with the Sections of the Congress. The co-operation of the officers of each section has been obtained, in order that the collections may be worthy of the occasion. It has further been decided that inasmuch as the meeting is to take place in London, and as the visitors will doubtless desire to inspect the Metropolitan hospitals and other great institutions, material will not be collected from the museums of the Metropolis. The committee is, therefore, seeking exhibits from provincial and foreign institutions and from private collections.

Medical practitioners and scientists who are willing to place at the disposal of the committee material illustrative of recent advances in any branch of medical science are requested to communicate with the Hon. Secretary of the Museum Committee (H. W. Armit, Ravenhurst, Talbot Road, Wembley).

The committee is prepared to defray the expense of transit of the exhibits and to insure them against damage and loss, and

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will take every precaution to return them in good condition to their respective owners. . .

Exhibitors will be invited to hold demonstrations in the museum on their own specimens.

It may further be pointed out that permission has been obtained from the Council of the Congress to keep the Museum open for a few days after the Congress has ended, if it be found desirable to do so.

Preliminary List of Subjects to be Included in the Museum of the XVIIIth International Congress of Medicine.

1. ANATOMY—Dissections. Macroscopical and microscopical specimens.
2. PHYSIOLOGY—New forms of apparatus (to be shown by physiologists only). Records of recent observations. Anatomical specimens, with especial reference to reciprocal innervation.
3. GENERAL PATHOLOGY—Muscular system of the heart. Grafting of normal tissues. The pathology of shock.
- 3a. CHEMICAL PATHOLOGY—Pathological conditions due to the effect of diet. Clinical application of pathological chemistry. Chemical pathology of the alimentary tract.
4. BACTERIOLOGY—Cancer. Filter passers. Leprosy, Anaphylaxis.
5. PHARMACOLOGY—Non-bacterial toxins and antitoxins. The results of thermal treatment.
6. MEDICINE—Chronic arthritis. Heart failure. Diabetes. Hæmolysis.
7. SURGERY—Malignant disease of the large intestine. Tumors of the brain. Intrathoracic surgery. Arterial surgery.
- 7a. ORTHOPAEDICS—Treatment of spastic paralysis. Treatment of scoliosis. Treatment of ankylosis. Treatment of tuberculous disease of joints in childhood.
8. OBSTETRICS AND GYNAECOLOGY—Cancer of the uterus. Hæmorrhage from the placental site.
9. OPHTHALMOLOGY—Chronic uveitis. Glaucoma operations.

10. DISEASES OF CHILDREN—Coli infections of the urinary tract. Effect of the ductless glands on development. Surgical treatment of tuberculosis in childhood. Poliomyelitis and polioencephalitis.
 11. NEURO-PATHOLOGY—Motor aphasia, anarthria and apraxia. Tumors of the brain. The myopathies. Parasyphilis.
 12. PSYCHIATRY—The psychoses of infections and autoinoculations.
 13. DERMATOLOGY AND SYPHILOGRAPHY—Exhibits of this section will not be included in the General Museum.
 14. UROLOGY—Early renal and vesical tuberculosis. Malignant disease of the prostate.
 15. RHINOLOGY AND LARYNGOLOGY—Neoplasms of the nose, accessory sinuses and naso-pharynx. Rarer forms of laryngeal tumors. Diseases of the trachea and bronchi. Broncho-oesophagoscopy.
 16. OTOTOLOGY—Exhibits of this section will not be included in the General Museum.
 17. STOMATOLOGY—Periodontal diseases.
 18. HYGIENE AND PREVENTIVE MEDICINE—The mortality of infants during the first four weeks of life. Visual defects in school children. Diseases of the lung due to dust.
 19. FORENSIC MEDICINE—The forensic aspect of syphilis. The psychology of crime.
 20. NAVAL AND MILITARY MEDICINE—Transport of the wounded in hill warfare. Hospital ships. Water supplies in the field. Antityphoid inoculations. Sanitary organization in the Tropics. Caisson disease.
 21. TROPICAL MEDICINE—Leishmaniasis. Relapsing fever. Beriberi. plague. Tropical diseases of the skin. Filariasis. Worms.
 22. RADIOLOGY—Technical advances in radiography. Radiographs illustrating diseases of various organs, etc.
- SPECIAL DEPARTMENT—The technique of the Museum.

Personals

Professor Ramsay Wright, when last heard from, was in London, England.

Dr. J. A. Robertson, Dr. Lorne Robertson, of Stratford, will sail from New York for Egypt in the Adriatic, February 18th.

Dr. R. W. Forrest, of Mount Albert, has retired from active practice, and has removed to 359 Sunnyside Avenue, Toronto.

Dr. Charles O'Reilly, of Toronto, will sail from Montreal for Liverpool, March 1st. After a visit to London, he will go to Ireland.

Dr. R. T. Rutherford, who graduated M.D. from Trinity in 1897, and practised in Strathclair, Man., for many years, has been appointed Medical Inspector of Immigration for Canada at New York.

Dr. George McDonagh, of Toronto, left for an extended trip January 10. He went first to California, where he remained a few days. He then sailed for Australia and New Zealand. He expects to return to Toronto about the last of April.

Obituary

JOHN ANDREW McLAREN, M.D.

Dr. McLaren, of Caledon, died at his home, January 16, aged 52.

PETER McLAREN, M.D.

Dr. McLaren, who graduated M.D. from McGill in 1861, and practised in Paisley for more than forty years, died at the home of his niece, Mrs. Hargreaves, Toronto, where he had lived about eight years.

ROBERT P. ROBINSON, M.D.

Dr. R. P. Robinson, of Ottawa, died at High Park Sanitarium, Toronto, January 16, 1913, aged 47. He received his medical education at Trinity Medical College, Toronto, and graduated M.D. from Trinity University in 1888. He practised for many years in Ottawa.

WILLIAM RICHARD CANN, M.B.

We have to announce, with very deep regret, the death of Dr. W. R. Cann, which occurred January 19th, at his late residence in Horning's Mills. He was 28 years of age, a native of Oshawa, where he received his preliminary education, and a graduate in medicine of the University of Toronto, 1911. After graduating, he acted as house surgeon in the Toronto General Hospital for about sixteen months, and at the expiration of his service there settled in Horning's Mills, where he *jumped* into a heavy practice. He was deservedly popular, and his prospects were very bright, when death carried him off in a very cruel way. He was married only two months ago to Miss Clara Tremeer, of Toronto. His illness was pneumonia of a week's duration, following an attack of influenza.

WOLFRED D. E. NELSON, M.D.

Dr. W. D. E. Nelson, for many years a well-known physician in Canada, died at his home in New York, January 16, aged 66. He graduated M.D. from McGill in 1872, and practised in Quebec from that time until 1900, when he went to New York, where he soon rose to prominence as a physician, author and sanitarian.

W. J. WAGNER, M.D.

Dr. Wagner was born in Rochester, N.Y., in 1849, but spent nearly all his life in Toronto. He received his preliminary education at Upper Canada College, his medical education in the Toronto School of Medicine, and graduated M.B. from the University of Toronto in 1870. After graduating he practiced in Rochester for a little over a year and then returned to Toronto where he practiced his profession up to the time of his last illness. He is survived by his widow and five children, among them being Dr. Chas. J. Wagner, who is well-known to the profession in and near Toronto.

Book Reviews.

System of Treatment by many writers: Edited by ARTHUR LATHAM, M.A., M.D., Oxon; F.R.C.P., London, Physician and Lecturer on Medicine, St. George's Hospital, and T. CRISP, English Surgeon and Lecturer on Surgery, St. George's Hospital. Toronto: The Macmillan Company of Canada.

In our last issue we had much pleasure in recommending very highly this admirable "System of Treatment" by many writers (one hundred and eighty), edited by Drs. Latham and Crisp. It is difficult for one who attempts to go into details in connection with the different volumes to give anything like an accurate description of the character of the writings.

We may illustrate, however, giving a brief synopsis of a short article written by our friend, Mr. Donald Armour, on "Spina Bifida," which appears in volume I. Spontaneous cure takes place occasionally by gradual shrinkage of the sac, or even after ulceration and rupture. In the case of rupture, however, the patients generally die from septic meningitis. Tapping should never be resorted to as a curative procedure. Strangulation of the sac, as recommended by Bell, is condemned. Pressure to prevent increase in size is dangerous. Palliative treatment is sometimes advisable for a time at least. Methods of protecting the tumor are described in detail. Treatment by injection of an iodo-glycerine solution, called "Morton's fluid," is described and discussed. Excision is generally the correct procedure. Preparation, operation, and after treatment are fully described. Considering the large mortality during the first year the operation should be performed as early as possible. The chief contra-indications to operation are marasmus and hydrocephalus. Ulcerative processes in the region are temporary contra-indications. The amount of paralysis is one of the chief indications for or against operation. The writer gives a lot of information within a comparatively small space in the concise, clean-cut fashion that characterizes nearly all the articles in the separate volumes.

We might consider a short article in volume II by Dr. Torrens on Coeliac Disease which he describes as one of the important wasting diseases of childhood only recognized during the last few years. The symptoms generally manifest themselves in the second or third year of life. All that is known about this not uncommon disease as to causes, treatment, and prognosis is given on one page. Although short the article is not like a dictionary. It is readable and interesting.

Diseases of the Stomach, Intestines and Pancreas. By ROBERT COLEMAN KEMP, M.D., Professor of Gastro-Intestinal Diseases in the New York School of Clinical Medicine; Late Gastro-enterologist to the New York Red Cross Hospital; Gastrologist to the West Side German Dispensary; Consulting Physician, Gastro-intestinal Diseases, to the Manhattan State Hospital; Member American Medical Association, Academy of Medicine, etc. With 388 illustrations, some in colors. Second edition, revised and enlarged. Philadelphia and London: W. B. Saunders Company, 1912. Toronto: J. F. Hartz Co., Ltd.

The early appearance of a second edition indicates that this work has come to occupy an important place among American Medical Monographs. The book is most complete in every particular, methods of examination, history-taking, laboratory work being gone into with great accuracy and clearness. The volume is splendidly illustrated with numerous plates and cuts. Changes from the first edition have been made and chapters on Colon Bacillus Infective, and Diseases of the Pancreas, added, while the subject of Reflex Gastric Neuroses has been fully taken up.

We can recommend this work to the profession as one of the best extant on the subject.

Pathology and Treatment of Diseases of Women. Fourth Edition. Rewritten by PROFESSOR A. MARTIN and PROFESSOR PH. JUNG. Translated by Henry Schmitz, M.D., Professor of Gynecology, Chicago College of Medicine and Surgery. New York: Rebman Company, 1123 Broadway.

This book originally was the result of a course of lectures delivered by Professor Martin in Berlin. In a comparatively short time three editions were exhausted. This fourth edition has been rewritten by Professors Martin and Jung. This is the only authorized English translation, written and edited by Dr. Schmitz, of Chicago. We think the publishers, in describing the work of the authors, tell us the exact truth: "Their purpose has been to combine completeness and breadth in the delineation of contemporary opinion and therapeutic procedure with clearness, terseness, and the elimination of mere theories, controversial discussion or needless repetition." While the style of writing is eminently concise, it is at the same time clear and forceful. The editor has given us a good translation. He has also added very valuable notes, which will be highly appreciated, especially by general practitioners. While the authors and translator have

given us something exceedingly good, it is only fair to add that the publishers have done their share of the work remarkably well.

The Mechanism of Life. By DR. STEPHANE LEDUC, Professeur à l'école de médecine de Nantes. Translated by W. Deane Butcher, formerly President of the Röntgen Society and of the Electro-Therapeutical Section of the Royal Society of Medicine. New York: Rebman Company, 1123 Broadway.

Whatever may be one's private opinion on the questions of Biogenesis and Abiogenesis, one must admit that the subject matter of this book is handled in a very convincing and fascinating fashion. The early evolutionary hypothesis of Lamarck is revived, and it is interesting to note that "as recently as 1907 the French Academy of Science excluded from its Comptes Rendus the report of these experimental researches on diffusion and osmosis, because it touched too closely on the burning question of spontaneous generation." To follow the author in his description of the growth and development by osmosis of masses of inorganic matter, until they show practically all the phenomena that are usually associated with life, is indeed a treat. Anyone interested in biological problems, be he physicist, chemist, physiologist, or physician, cannot fail to find this book interesting and productive of much new thought on some old problems.

A Clinical Manual of the Malformations and Congenital Diseases of the Fœtus. By PROFESSOR DR. R. BIERNBAUM, Chief Physician to the University Clinic for Women, Göttingen. Translated and annotated by G. Blacker, M.D., B.S., F.R.C.P., L.R.C.S., Obstetric Physician to the University College Hospital, etc., etc. With 58 illustrations in the text and 8 plates. Toronto: The Macmillan Company of Canada, Ltd., 1912.

In this volume we have a complete presentation of the various foetal malformations and diseases in their clinical aspects. The obstetrical treatment required in the delivery of the various forms of monster and of children, with hydrocephalus, exomphalos, etc., is detailed, and cases cited. The etiology of the different malformations is discussed, and good illustrations of many of them given. Most of these illustrations are from the collection at Göttingen, but the translator has added a few of his own, or from London museums. The text is easily read and bears no

sign of being a translation. On this Dr. Blacker is to be congratulated, and also on the interest of the many explanatory notes which he has added to the original. At the end of each chapter fairly full literature references are given. This book supplies a distinct want in English obstetrical literature, and can be heartily recommended.

A Text-Book of Obstetrics. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania; Gynæcologist to the Howard, the Orthopædic and the Philadelphia hospitals, etc. Second edition, revised and enlarged, with 895 illustrations, 53 of them in colors. Philadelphia and London: W. B. Saunders Company. 1912. Price, \$5.

When a book reaches its seventh edition, it requires little commendation from the reviewer. It speaks for itself. Hirst's text-book is known and read in all countries, and in this edition maintains its high reputation. As in former editions, the diseases of women, in their obstetrical aspects, are treated of, as well as pure obstetrics, and a considerable section has been added on diseases of the breasts. Many of the illustrations are new and all are good. The book supplies all that is wanted by the student or medical practitioner.

E. Merck's Annual Report of Recent Advances in Pharmaceutical Chemistry and Therapeutics. Volume XXV. E. Merck. Chemical Works. Darmstadt. 1912.

For one desirous of an impartial review of the newer pharmaceutical preparations, Merck's Annual Report is without an equal. The whole range of pharmacology is covered, full references being given to the literature dealing with the same. In this present edition are two exhaustive articles on "The Glycerophosphates" and "The Digitalis Glucosides and Allied Drugs."

The edition is limited, and is distributed chiefly among teachers of materia medica and therapeutics, and medical and pharmaceutical libraries. A few copies, however, are generally left, and may be obtained by physicians on remitting the forwarding charges of fifteen cents in stamps to Merck & Co., 28 St. Sulpice Street, Montreal.

Medical Opinion Concerning Coffee

is more concrete, definite, decisive to-day than it ever was before.

The Doctor of the present time **knows definitely** why he must, under certain conditions, for the best interests of his patient, forbid coffee as a beverage.

He knows, for example, that the active principle, Caffeine, in coffee, acts directly as a stimulant on the heart and, in this way, increases the blood-pressure when it might be desirable to relieve an already too-high tension.

Acting on the heart in this definite way, if used as a routine stimulant, coffee, in time, must inevitably produce more or less irregularity of the heart's action, and thus be the fore-runner of greater or less serious chronic trouble (some persons being more susceptible than others.)

The logical, easy way to **lead** the patient out of the impending danger (be it of whatsoever degree) is to prescribe the well-known, wholesome and agreeable drink, **POSTUM**.

Made of clean, hard wheat and the juice of Southern sugar-cane, this cereal beverage is **not** in any way harmful but in a degree, nutritious.

Postum now comes in new convenient form called

INSTANT POSTUM

It is percolated at the factory and reduced by special sanitary process, to a concentrated powder. A teaspoonful of the powder in a cup with **hot** water produces a perfect cup **Instantly**.

The flavor of "Instant Postum" is always the same—refreshing, delicious, wholesome, satisfying.

The "Clinical Record," for Physicians' bedside use, together with samples of **Instant Postum**, **Grape-Nuts** and **Post Toasties** for personal and clinical examination, will be sent on request to any physician who has not yet received them.

Miscellaneous

A Possible Revolution in the Treatment of Infectious Diseases

Are existing methods of treating bacterial diseases to be fundamentally changed? Do the Phylacogens furnish the key to a new and enlightened therapy? Medical and other scientific men are beginning to ask these questions. Less than one year ago the name Phylacogen had not been injected into the language. To-day you can scarcely pick up a medical journal that does not contain some reference to the remarkable group of products for which it stands.

What are Phylacogens? Briefly, they are sterile aqueous solutions of metabolic substances, generated by bacteria grown in artificial media. The name Phylacogen (from the Greek) means "phylaxin-producer"—literally, "a guard" and "to produce."

The initial Phylacogens were originated by Dr. A. F. Schafer in 1908, the method of preparation and technique of application being first presented to the San Joaquin Medical Society in Fresno, California, in October, 1910, and later to the San Francisco Medical Society (January 14, 1911). Subsequently, the preparation of the Phylacogens was entrusted to Parke, Davis & Co., the work of manufacture being carried on at the company's biological laboratories.

The principle upon which the use of the Phylacogens is founded is the theory of multiple infections. Three facts are set forth as the basis of the new therapy:

1. Practically all acute and many chronic diseases are caused by the metabolic products of bacteria.
2. The human subject is the host of micro-organisms that are pathologically latent, but capable of setting up a disease process under certain conditions.
3. The growth of infecting micro-organisms can be arrested and their effects neutralized by products derived from their development in artificial culture media.

Five Phylacogens are now available: Rheumatism Phylacogen, Erysipelas Phylacogen, Gonorrhoea Phylacogen, Pneumonia Phylacogen, and Mixed Infection Phylacogen (the last-named being applicable to the multiplicity of infections which may be said to be of questionable etiology). They are supplied in rubber-stoppered glass bulbs of 10 c.c. capacity, and are administered hypodermically (subcutaneously or intravenously).

EATON'S



SILENT *Waverley* ELECTRIC

MEDICAL MEN are INTERESTED IN THE Waverley Electric Brougham

See how admirably the Silent Waverley Electric Brougham fills the requirements of the City Doctor:—

IT TAKES the road immediately (no cranking), and is always ready for an emergency call.
IT STARTS and stops with the slight movement of a controller, no soiling or fatiguing of the hands and arms.

IT CANNOT freeze up, no matter how cold the day.

IT IS NOISELESS, odorless and most economical to operate.

CLOSED IN against the roughest weather, the operator has a full view ahead and complete command of the road.

The Silent Waverley Electric Four-passenger Brougham has the longest interior of any car of its type, 65 inches. It has two full-width seats, generously upholstered.

It is interesting to note that the makers of this car, the Waverley Company of Indianapolis, have had sixteen seasons of electric carriage building, and the 1912 car is the product of the accumulated experience of these years.

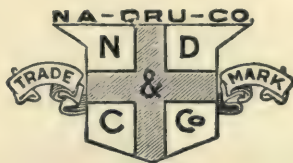
See the Waverley at the Garage, Albert Street, or write for particulars.

THE **T. EATON CO** LIMITED
TORONTO CANADA

Many experienced physicians, representing both private and hospital practice, believe that in the Phylacogens we have the most efficient remedial agents yet devised for the treatment of acute and chronic infections.

Instrumental Impregnation

Dr. E. M. Mosher (*Wom. Med. Jour.*) believes that this procedure is a field peculiarly adapted to women in medicine, but should be undertaken only by those accustomed to strictly aseptic methods. Her technic is as follows: "I give careful instructions to my patient regarding the aseptic collection of the seminal fluid. Warm sterile water and a sterile, well-covered receptacle (an ointment jar is as good as any other) are placed in readiness in my office dressing-room. My patient meets her husband there and brings me the seminal fluid in a warm bath to maintain its temperature. I place her on the operating table, cleanse the vulva and external genitalia as for a curettage, being careful, however, to remove every vestige of soap and disinfectant applied, and carefully preventing the passage of fluid into the vagina either in the cleansing process or by douche. The patient is placed in partial Trendelenburg position, the speculum put in place, and the vagina and cervical canal well wiped with cotton. A sound is then passed through the cervix to make sure the canal is open, and to ascertain the direction of the uterine cavity at the moment. (Such preparatory treatment as has been found necessary has, of course, preceded the operation.) With a Braem's intra-uterine syringe the semen is carefully instilled into the uterine cavity. The vagina is filled with the fluid, and a "test-tube," containing very warm water and closed with a cork, is inserted into the vagina a couple of inches to promote by heat the activity of the spermatozoa. After a half hour the test tube is removed and the vaginal injection is repeated. I permit the patient to remain in position an hour or an hour and a half before she goes home. While waiting, I examine the semen, ascertain its degree of alkalinity, and under the microscope observe the degree of activity the sperm cells manifest. As acidity of vaginal mucus and low alkalinity of spermatic fluid are common causes of sterility, I am in the habit of advising my patients who desire children to use a weak boracic acid douche before retiring. When I find that the vaginal secretion is very acid, I apply a tampon made of wool in which a little boracic acid has been added dry. This I direct the woman to remove at bedtime.—*International Journal of Surgery.*



THE SUREST KIND OF MEDICATION

The National way of making NATIONAL FLUID EXTRACTS assures to the medical profession the surest kind of medication.

NATIONAL FLUID EXTRACTS are medicinal concentrates of guaranteed uniformity.

Every ounce of NATIONAL FLUID EXTRACTS contains the virtue of an ounce of the crude drug, and all inert matter is eliminated.

There are about 275 different lines of NATIONAL FLUID EXTRACTS, and all are made with the same attention to quality of drug employed and careful manipulation, as bestowed upon

National Fluid Extract of Ergot

which is enjoying such an enviable reputation among physicians all over Canada.

PLEASE NOTE: A list of all the products of the National Central Pharmaceutical Laboratories and National Chemical Works will be sent upon application to

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Montreal, Canada

The Physician's Duty

Physicians are becoming more and more impressed with the value of prophylactic measures. Therefore, to instruct patients of the gentler sex in hygienic and sanitary principles and procedures is both a duty and a privilege.

It is a fact, often not entirely appreciated even by physicians, that the vaginal douche, properly employed, should be used frequently, even in the absence of any abnormal condition. Despite the opinions sometimes expressed that frequent douching is not advisable, that the natural secretions being sufficiently germicidal should be allowed to remain, etc., it is a matter of common knowledge and experience among women of any degree of refinement that proper toilet of the vaginal tract is as valuable, necessary and indispensable as the use of the toothbrush.

This being true of women whose genital tract is in a normal and healthy condition, it applies with augmented force to the vast proportion of cases in which there is some abnormal condition present, such as excessive mucous secretions, leucorrhea, vaginitis, endocervicitis, endometritis, congestion, irritation, etc.

It is indeed a matter of common and daily experience that women who are nervous, irritable, easily worried, cross, peevish, moody, etc., are often greatly benefited by the use of warm or hot vaginal douches, properly employed by means of a suitable apparatus or syringe.

Cleanliness of the genital tract is for women not only a valuable sanitary and hygienic measure, but also in many instances an absolute necessity, in order to prevent physical irritation or discomfort, as well as mental unrest.

The proper use of the Marvel Whirling Spray Syringe is not only instrumental in the treatment of diseased conditions, but is also of great value as a prophylactic measure.

An Historical Medical Exhibition in London

For the first time in 21 years the International Medical Congress will meet in London in the summer of 1913, and in this connection an Exhibition of rare and curious objects relating to Medicine, Chemistry and Pharmacy and the allied sciences is being organized by Mr. Henry S. Wellcome. The response to the appeal for loans has been most successful, with the result that probably one of the most interesting collections of historical medical objects ever gathered together will be on exhibition during the meeting of Congress.

A remedy to be
therapeutically efficient
must produce dependable results



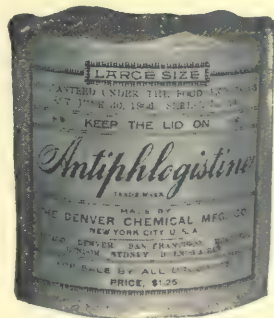
INFLAMMATION AND ANTIPHLOGISTINE
while not synonymous, the manifestation of one
suggests the thought of the other.

IN

**INFLAMMATORY RHEUMATIC JOINTS, LUMBAGO,
SPRAINS, BRUISES, FROST-BITES, CHILBLAINS**
and other inflammatory conditions, Antiphlogistine
applied thick and hot affords immediate relief.

NOTE.—A name qualifies both
product and result. See that
your first thought, Antiphlo-
gistine, is applied and not an
imitation.

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Among other interesting sections is one including the medical deities of savage, barbaric and other primitive peoples. Through the kindness of friends, specimens of these have been forwarded from all parts of the globe, but there are still many gaps to be filled, and those who possess such objects, and would be willing to loan them, should communicate with the Secretary of the Exhibition, whose address is given below.

Amulets, talismans and charms connected with the art of healing will also form another prominent feature, and any loans of this description would be welcomed.

In the section of surgery, an endeavor will be made to trace the evolution and development of the chief instruments in use at the present day, and it is desired to accumulate specimens of instruments used in every part of the world, by both savage and civilized peoples.

In pharmacy and in botany, special exhibits are projected, which will include models of ancient pharmacies, laboratories and curious relics of the practice of alchemy in early times. Specimens of ancient and unusual materia medica from all parts of the world will also be exhibited.

A complete, illustrated syllabus will be forwarded to anyone interested on application to the Secretary, 54a, Wigmore Street, London W., England.

Treatment of Surgical Tuberculosis

The practice of injecting antiseptic and antituberculous substances into abscesses and sinuses in cases of surgical tuberculosis has been less followed in this country than it has been in France, notably by Calot. These substances have been many, but may be divided into two classes—those that have a sclerosing effect, and those that are expected to cause liquefaction of the tuberculous material. Iodoform, creosote, camphor, and thymol are the substances, alone or in combination, that have been most used, and the best results have followed on the use of those that most favored liquefaction. Some of these injections, however, have produced dangerous and even fatal results. In a thesis presented to the Faculty of Medicine of Paris, Dr. Jacques Tribes advocates the use of an aromatic oil which is known by the trade name of "gomenol." This drug is closely allied to cajeput oil, and is obtained by distillation from the young leaves of the *Melaleuca viridiflora*, a New Caledonian tree which belongs to the Myrtaceæ. It has a high antiseptic value, and chemically

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approaches the composition of terpinol. Dr. Tribes has noted the effects of gomenol in 187 cases; 30 were chronic, such as Pott's disease, and are as yet incomplete, and 13 did not attend regularly; in the remaining 147 cases, 25 open lesions were cured; of 122 cases of tuberculous lesions without wound, 96 were cured without the formation of fistulæ; in 13 temporary fistulæ were formed, but healed quickly; in 10 fistulæ formed with tuberculization of the skin, but ended with the formation of movable cicatrices. Three patients died from tuberculous meningitis during treatment. A solution of 20 per cent. in olive oil was used, and of this from 1 to 2 c.cm. is a dose. In this strength and dose it appeared to be free from danger and painless. A slight experience of the drug in this country is distinctly favorable, and we are inclined to accept Dr. Tribes' conclusion that gomenol is safe and effective. It certainly seems worthy of extended trial in this country.—*British Medical Journal*.

A Severe Burn

My first use of Antiphlogistine in burns and scalds was accidental. I was called by telephone to Mr. J. T., aged twenty-seven, weight 180 lbs., brickmaker, a steampipe having exploded between his legs, scalding him badly. I ordered that no grease of any kind be used, but that cloths soaked in a strong solution of bicarbonate of soda should be laid on the parts till I could get there. I stopped at a drug store to procure another salve I had used in such cases, and by mistake the clerk gave me two boxes of Antiphlogistine. When I reached my patient I found him suffering intensely with a big blister extending from the crotch to the ankle on the inner side of both legs, at least three inches wide and surrounded by a red, inflamed surface two inches wide on each side.

I had used Antiphlogistine before in pneumonia and in sprains, so when I found that by mistake this had been sent, I decided to try it. I covered the entire injured parts with a thick layer of Antiphlogistine (applied cold), put absorbent cotton over all, and after bandaging loosely to keep things in place, took Mr. T. home in my buggy. When I first saw him his face was contorted with pain and he could not suppress the groans that agony wrung from him; but, as I covered more and more of the burnt surface with the dressing, I could see the expression of pain leaving his face. I gave him some medicine to relieve pain, and when I called again that evening I found he

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had not touched the anodyne. I asked him why he had not touched his medicine. "Well, doctor," he said, "you told me to take that every two hours while I was in pain, and I have not had any pain."

The next day I let him leave his room, and in three days he was back at work. I did not touch the dressing for five days, and when I took it off the parts had healed entirely.

There are two important points in the use of Antiphlogistine. First: put it on thick, thick, thick, using it hot for internal inflammations and cold for burns and scalds. Second: never put cloth over the Antiphlogistine, except a thin layer of gauze, if necessary, but put absorbent cotton in thick layers over your first dressing. Don't try to remove it as long as it sticks to the skin, for it will let go as soon as it has done its work. I have used this preparation (Antiphlogistine) frequently since then in severe burns and scalds, and yet have to meet my first disappointment in its curative power.

The Detection of Obscure Gastro-Intestinal Haemorrhages

A simple and satisfactory test has recently been introduced for occult blood in the fæces. It is particularly valuable in the diagnosis of malignant disease of the alimentary tract. As small continuous losses of blood are taking place, it will reveal the presence of blood in practically every stool. In simple ulcer of the stomach or duodenum intermittent and larger losses of blood are more likely to occur. If a patient has never had melæna but gives on three separate occasions a positive result with this test, it is strong presumptive evidence in favor of malignant disease of the alimentary tract. Again, it is a valuable aid in differentiating peptic ulcer from simple hyperchlorhydria, but a single negative result is not sufficient because the bleeding is intermittent.

The patient must be placed upon a diet free from meat and meat juices for three days and the bowels kept well opened. A soap and water enema should not be used for this purpose, as soap tends to prevent the reaction. There is no objection to simple water enemata.

The test is performed as follows: A small portion of fæces is well mixed with about 5 c.c. of water in a test tube and thoroughly boiled to destroy any oxidases from green vegetables, which would give a positive result even in the absence of blood. Benzidene is added to a little glacial acetic acid till saturated.

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Three drops of the former are mixed with 10 drops of the latter and then 20 drops of a 3 per cent. solution of hydrogen peroxide are added. If any blood is present in the feces a blue color will appear within two minutes. A pale green color does not constitute a positive reaction. Exact measurements are not necessary. An extended experience of the test shows it to be a valuable addition to our diagnostic methods.—*The Medical Review*.

Pneumogastric paralysis after an operation involving manipulations about the nerve, *e.g.*, removal of tuberculous cervical lymph nodes, does not necessarily indicate that the nerve has been accidentally cut or tied. The condition may be transitory and result from traumatic or inflammatory irritation.—*American Journal of Surgery*.

When confronted by an irregular rounded growth appearing to spring from the sternomastoid in the middle third of the neck, bear in mind the possibility of a carotid gland tumor.—*American Journal of Surgery*.

Treatment of Respiratory Complications in Influenza

MacKenzie (*Practitioner*) uses heroine hydrochloride in doses of from 1/36 to 1/12 grain at intervals of one or two hours, in cases where the cough is dry and paroxysmal. Where it is frequent and severe, the following linctus is effective:

R Morphinae hydrochloridi, gr. ½;
 Apomorphinae hydrochloridi, gr. ¼;
 Acidi hydrochlorici diluti, mxx;
 Syrupi pruni virginianæ, ʒss;
 Aquæ, q. s. ad. ʒii.

Fiat linctus. Sig.: one drachm to be taken as required.

In the presence of bronchitis, the following mixture is useful:

R Liquoris ammonii citratis fortioris (N.F.), mxviii;
 Potassii citratis, gr. xv;
 Vini ipecacuanhæ, mv;
 Aquæ, q. s. ad. ʒi.

M. Sig.: To be taken at one dose.

Fresh air is the best prophylactic against influenza, and it is also a sovereign remedy for both the acute and chronic manifestations of the disease in the respiratory tract.—*New York Medical Journal*.

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This form of administering the Formates is one largely in vogue for increasing tone in those who go in for physical exertion, such as athletes and men who are very actively engaged, who are merely run down and not suffering from any illness, but require a sharp tonic. The Formates are also useful in the treatment of Chronic Rheumatism.

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—*British Medical Journal*

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A Neurologist on Freud's Theories

The dissemination of Freud's theories has brought out a great deal of what seems to be to some extent partisanship on the part of neurologists. While his views have somewhat the effect of a red rag to a bull on some neurologists, by his adherents they appear to be regarded as almost sacred. Of course, the heated discussions which have taken place with regard to the Freudian dicta have had something to do with the attitude assumed by pro-Freudians. For, after all, it is only natural that when theories in which a man believes are sharply assailed they should be as strongly defended. Of course, to the ordinary individual and even to the practitioner not skilled or deeply read in neurology, the statements made by Freud as to the influence of sexual instincts on the origin and causation of neuroses savor of gross exaggeration. But even to many neurologists who freely allow that such instincts are factors in the production of neuroses, it nevertheless appears evident that Freud and his disciples have overstated their case and carried their theories to an almost absurd length. In this country Starr and others have dissented from Freud's views on more than one occasion, and in Europe several of the most renowned nerve specialists have argued more strongly by far against their acceptance. At a meeting of the Swiss Society of Neurology which took place at Lucerne on November 9 and 10, an account of which is given in the *Lancet*, November 23, 1912, Professor Ladame of Geneva in a report on neuroses and sexuality gave a complete resume of Freud's theories. He pointed out that Cramer, Lowenfeldt, and Oppenheim have seriously opposed the theory of pan-sexuality and that quite a number of other authors have combated what they believed to be exaggerated and inexact views. Kurt Mendel wrote a biting satire on Freud's typical infant, whose suction of the thumb and childish sports were referred exclusively to the sexual sphere. As for the dangers of sexual abstinence, so strongly dwelt upon by Freud, in the opinion of Ladame those dangers are nonexistent. Ladame considered that a capital mistake had been made in confounding the functions of nutrition and those of reproduction.—*Medical Record*.

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No. 3

Original Communications

MEDICAL HERESY *

BY DR. A. F. MCKENZIE, MONKTON, ONT.

Mr. President, and Members of the Huron Medical Association:

About the time I was requested by your Secretary to read a paper before your Society, and while I was turning over in my mind some of the subjects which I thought might be of interest to you, I received from our territorial representative his resumé of the proceedings of the Medical Council for the year, and one or two clauses in this, to which I shall subsequently refer, led me to choose the title of my paper.

As my reference to these clauses will partake somewhat of friendly criticism, I would just now like to compliment him on the plan he has adopted of bringing before his constituents, in concise form, what he considers to be the most important proceedings of the Council.

According to the Standard Dictionary, Heresy is "a doctrinal view or belief at variance with the recognized standards or tenets of any established system, school or party; an opinion or doctrine subversive of settled beliefs or accepted principles."

When we attempt to define Medical Heresy, we are at once met with the difficulty of stating precisely what are the settled beliefs or accepted principles in medicine.

We are not bound by any written creed.

It is needless to say that I have no brief to speak for the whole of the profession, but it appears to me that the only necessary fundamental belief is, that by natural means of investigation and the use of those methods which have enabled

*Read at Golerich before the meeting of the Huron Medical Association, Sept. 11th, 1912.

mankind to progress in other fields of knowledge, particularly in those of the natural sciences, something may be accomplished towards understanding the nature and causation of disease, and discovering means for its prevention, mitigation or cure. Probably the most fundamental principle on which we work, or on which I conceive we should work, is that each and every efficacious means available should be utilized for the accomplishment of our purpose.

I shall not attempt to trace the evolution of the medical profession from its earliest beginnings to its present proud position in the various civilized countries of the world. I believe it is reasonable to suppose that, in the early age of any civilization, such knowledge of medicine as was possessed was more or less the common property of all the people. The advancement of knowledge and the progress of civilization would gradually bring about a differentiation of classes and pursuits. I think it is generally taught that in the early stages of most civilizations the practice of medicine was largely a priestly function. A discussion of Medical Heresy would be incomplete without consideration of the relation between religion and medicine. This subject is, however, such a delicate and difficult one, and requires such special aptitude for its study and presentation, that I shall make very little reference to it, except in connection with a sect which has sprung up within our own time, but which, perhaps, is more of a metaphysical than a religious organization.

In the course of development of the medical profession, a stage was reached where it was recognized, partly by themselves and partly by those in authority, that the welfare of the community demanded that those professing to practise medicine should, before being allowed to do so, give satisfactory evidence that they possessed a certain amount of general culture and special training—the standard of general culture and the amount and kind of special training varying considerably at different times and in different states and countries.

This legislation was of a special kind, and necessarily granted special privileges, and has been viewed with a good deal of suspicion by a considerable number of people of varying degrees of intelligence and culture, but all of whom can be grouped together in a class whose creed in this particular field of legislation is "Equal rights to all and special privileges to none." In the political battlefield this cry forms a very effectual shibboleth, and if not carefully scrutinized in its application, is apt to carry away some who are not conversant with all the facts of the case.

It might be well just here to point out two things which appear to me perfectly plain:

The first is that any special privileges we may enjoy are not out of proportion to the special responsibilities that we have placed upon us; and the second is that the laity are wrong in assuming, as they frequently do, that legislation advocated by us is generally for the advancement of our own interests. A great deal of the legislation promoted or supported by us is of such a nature as to promise nothing, so far as we are concerned, but a diminution of our incomes.

What is the condition of the medical profession in the Province of Ontario at the present time?

According to the circular recently issued by our representative, there are in this Province about three thousand and fifty men and women licensed to practise medicine, this term being used to cover not only the administration of drugs, but the use of any and all means available for the prevention, cure and relief of sickness, including the resources of the surgeon and of the obstetrician. With the possible exception of a few of the oldest of these, all have demonstrated, by first passing their matriculation examination, that they are possessed of at least an average amount of general intelligence and culture. In common with the medical profession throughout the world, we are in possession of a vast fund of knowledge which has been gradually accumulating during the past two thousand years or more, regarding the anatomy, physiology and pathology of the human body, the nature of disease and methods by which in many cases it can be prevented, alleviated or cured.

Only he who is ignorant of the history of medicine can doubt that wonderful progress has been made. It is true that a great deal of our progress has consisted in getting rid of erroneous beliefs and theories; but next to the acquisition of truth, the elimination of error is the greatest achievement of the human intellect. Our past is one of progress. Our present is one of knowledge and power; partial, it is true, and not so great as we would wish, but we look with hope to the future. How great this progress will be I shall not venture to predict. It is a wise maxim not to prophesy unless you know; but at present it does not seem improbable that if humanity at large ever seriously undertakes the task as earnestly as it has, for instance, the business of war, most of the diseases we now term infectious or contagious, and which in the past have killed by the thousands, may be eliminated. And yet, on the other hand, there are those who point out that our very success in the saving

of life in certain directions leads in many cases to the survival of the degenerate and the unfit. They point with particular alarm to the apparent increase of mental and nervous diseases. Although members of the profession have at different times pointed out this cause of alarm, we have, as a whole, considered it our duty to relieve suffering and prolong life in each individual case placed under our care.

The prevention of disease has always occupied a large share of attention from the profession, and at present a few are engaged exclusively in this branch of medicine, and derive their income from the state or municipality by which they are employed. The indications are that the number of these will be increased in the future. In the meantime, however, most of us are dependent for our incomes on the fees we receive for the treatment of individual cases of disease. The law compels us to report contagious diseases, in order that they be not spread. In this way we actually diminish the amount of work which we otherwise might profitably have to do. At present we receive no remuneration from the state for doing this, and often incur the resentment and ill-will of those to whom we look for our support.

As an example of the work which we do in this direction I might relate the following incident, occurring a short time ago in my own practice. A girl about seven years of age had recently returned home after a visit to Toronto. The mother consulted me in my office, asking me for something to give the child for tonsillitis. On questioning the mother, I was not satisfied about the trouble being simple tonsillitis, and told her it would be necessary for me to see the child before prescribing for her. I accordingly went to the house and made a diagnosis of diphtheria.

I immediately treated the patient with antitoxin, and gave the rest of the members of the household prophylactic doses. I reported the case to the Medical Officer of Health, who placed the house under quarantine. I took swabs from the child's throat and sent them down to the laboratory of the Provincial Board of Health, and received from that institution confirmation of my diagnosis. The patient made a good recovery, and no other cases developed in the household or community.

Twenty-five years ago a case of this kind would probably not have been positively diagnosed nor reported to the Board of Health until other members of the household and community had developed the disease, and possibly a few of them had died. This would have meant quite an increase of work and income

for the doctor, but suffering, sorrow, and loss of time and money for the community.

Every careful, conscientious and properly qualified practitioner is frequently placed in positions where he must, in the very nature of things, pursue a course of action detrimental to his own material interests. No wonder that, as a class, we are known as poor business men.

I do not wish to be understood as entertaining any contempt for legitimate business, either big or little. The point is that there are some spheres of action where business methods must give way to other considerations.

Of course, the members of the medical profession lay no claim to a monopoly of the sense of duty. The soldier on the field of battle, the fireman in the discharge of his duty, the judge on the bench, the lawyer pleading for his client, the good mechanic or the good preacher are not constantly thinking of their "pay." They are all trying to do what, under the circumstances, they think is the proper thing for them to do. Even in the domain of business the "good deal" has frequently to make way for the "square deal."

There are, however, few transactions in life where one of the parties is so suddenly and completely placed under the power of the other as is the sick man with the doctor. The man who is contemplating going to litigation can, as a rule, take time to think the matter over before taking any decisive step; but the sick man suddenly finds himself in a position where he has to get help, if possible, and be willing to place himself for the time being in subjection to the orders of another. The patient, moreover, is as a rule unable to judge the value of the service being rendered to him in the same way that the ordinary man can judge of what he purchases in the store or factory.

These are some of the reasons why the State should insist that the ordinary citizen, who is not burdened by any theory of disease, should be able to call in any licensed practitioner, with a fair assurance that he will be treated by someone of at least average general intelligence, as evidenced by his ability to pass the required matriculation examination, and a fair amount of technical skill in the diagnosis and treatment of the ordinary diseases and injuries.

In return for this special demand for efficiency made by the State, it is not unreasonable for us to look for the few special privileges we possess.

This and other phases of our responsibilities are frequently lost sight of by those who are eager to wave, in the political field

as it affects medicine, the banner of "Equal rights to all and special privileges to none."

Much of the progress in medicine has been due to the adoption and utilization of discoveries made by men outside of the profession. In connection with this, I need only mention the tremendous impetus that was given to medical progress by the discoveries of the renowned Pasteur, probably the greatest Frenchman that ever lived.

Great as is the debt we owe to the past, we do not feel slavishly bound by it, nor yet by the practice of the master-minds in the profession at present. With the hopefulness of youth, our eyes are still turned to the future. In order that our progress be untrammelled, I believe it is essential for us to avoid, so far as possible, the hoisting of banners inscribed with partial truths and labelling ourselves with names which we may find it difficult, in our path of progress, to discard in the future. Here it is where I would like to take issue with our excellent territorial representative when he speaks of there being in the Province fifty Homœopathic and about three thousand Allopathic practitioners. I, for one, decline, and have always declined, to be known as an Allopath or any other kind of a "path." *The factors that enter into the causation of disease are too complicated, the forces that make for spontaneous recovery in many cases are too little understood, our methods and means of treatment are as yet too varied to be embraced in any one theory to which a name can be attached.*

So far as I can learn, neither of the terms Homœopathy nor Allopathy was ever heard of before the time of Hahnemann, who invented both, and, taking one himself, gave the other to the rest of the medical world. Unfortunately, the term Allopath took with the general public, but I believe the time has come when it should be consigned to oblivion, except in so far as it may be necessary to use it for the purpose of the medical historian. If our Homœopathic brethren would consent to do the same, the problem of medical legislation in this Province might be greatly simplified.

If we disclaim the term Allopath, what should we call ourselves? Personally, I must express a feeling of regret that the good old term, "Doctor," cannot be, at present, so exclusively claimed by the members of our profession as in the past. There are at present so many different kinds of "Doctors" that the term is not so distinctive as we would like; but I do not think the time has yet come when we should discard its use. We can also call ourselves, if it seems desirable, medical prac-

tioners, physicians, surgeons, obstetricians, or accoucheurs. If a practitioner decides to confine himself to the study and treatment of certain portions of the body, I see no particular objection to the use of such titles, as oculist, aurist, etc. Even the assumption of such terms as hydrotherapist, electrotherapist, etc., may occasionally be justifiable, indicating, as they should, that the practitioners using them confine themselves to special methods of treatment for suitable cases, it being understood that the use of such terms does not imply any contempt for nor disparagement of other therapeutic measures adopted by other men.

In spite of the erroneous views from which we have freed ourselves, and in spite of the great accumulations we have made of positive knowledge, we are still ignorant of much we would like to know. It is not surprising, therefore, that frequently someone within or without the profession will bring forward some new therapeutic system and promise cures and occasionally succeed where the regular practitioner may fail.

Some of the reasons for this departure from the recognized methods of the profession are:

(1) The natural desire to be free from disease in its various manifestations, and the recognition of the fact that in some cases the regular practitioner can apparently accomplish little. Hope, which springs eternal in the human breast, thus causes the patient to turn to other sources for relief.

(2) Many people are so constituted that they are naturally non-conformists. We see in human nature two opposing tendencies, the one conservative, the other desirous of change. These, when carried to excess, lead, the one to stagnation, the other to anarchy and confusion. These tendencies exist in different proportions in different individuals, and in different directions in the same individual. Thus a man may be extremely conservative in politics and very revolutionary in medicine.

(3) Contrary to what we might expect, success in one special line of human endeavor frequently appears to make a man exceedingly gullible in other specialties.

(4) Nearly all medical heresies which succeed in getting any considerable following have to do with therapeutics. Any new explanation of the nature of disease which did not have attached to it a promise of cure or relief, would probably succeed in getting very few followers from the general public, however interesting it might be from a scientific point of view. The importance of sickness increases in proportion to its proximity to the individual or to those that are specially dear to him.

One therapeutic success, whether real or fancied, achieved by any heretical system within one's own household counts for more than one hundred failures elsewhere.

(5) Many of the most efficacious methods at the command of the regular profession are naturally repugnant to many people. The mere idea of being cut with the knife in any surgical operation, the thought of having serum prepared from one of the lower animals injected into the system, the use of the virus of the calf to protect against smallpox, the taking of drugs, in no matter how small doses, which are known in large doses to be poisonous—all these procedures jar on the sensibilities of many and virulent, violent "*a priori*" objections to these form the strongest points of leverage that the propagandist of medical heresy can use against the profession.

(6) The desire that exists in the human mind for concise, clear-cut explanations of things is a potent cause of medical heresies. Not many minds are capable of remaining for any length of time in a condition of suspended judgment concerning things. There must be some explanation for everything. Fortunately for us, and I believe, on the whole, fortunately for humanity, a large proportion of mankind are content with the explanation, "The Doctor says so, and he ought to know what is best to do." To many, however, a theory of some kind must be advanced. The more concise, positive, all-embracing and apparently simple this is the better. "*Similia similibus curantur*" will appeal to one; "Electricity is life" to another. "Purely vegetable drugs" will appeal to one who would recoil with horror from taking mineral drugs. "You have a pain here. All pain is due to pressure of displaced bones on nerves. I can and will adjust your bones and put them in proper position" appears at the present time to be a very satisfactory explanation for many. This mechanical explanation of things is the antithesis to the affirmation of the Christian Scientist, who says: "Mind is real. Sickness is not real. The real cannot be overcome by what is not real. You are mind. You are not sick. Be real. Be well."

How is it that such contradictory theories, each of which claims to be a comprehensive system of therapeutics, and, if true, would exclude the others, receive the endorsement of large numbers of people, many of whom possess the average amount of information and intelligence? Systems, so much opposed to one another as Osteopathy and Christian Science can each bring forward proofs satisfactory to their adherents that they have an amount of success sufficient to place them on a plane equal,

if not superior, to the varied therapeutics of the regular practitioner. There must be some factors that make for success common to all these systems, and for that matter, common to our own practice.

The first of these factors is what is described by the Latin phrase, "*Vis medicatrix naturae*," the capability of living tissue, animal or vegetable, to remedy or remove disease, or to repair injuries inflicted upon it. Like the rain from heaven that falls upon both the just and the unjust, this tendency towards recovery, unless positively interfered with, works in many cases, particularly in those of acute disease, whether the patient is under the care of one who appreciates it, as the regularly trained physician generally does, or of one who is suffering under the delusion that all the progress towards recovery is directly due to his particular therapeutic procedures.

The therapeutic power of suggestion is also common to all, and unfortunately, in some cases works to better advantage for the irregular than the regular practitioner. The optimistic prognosis of enthusiastic ignorance will sometimes accomplish, for the time at least, greater good than the dubious or gloomy outlook of fuller knowledge.

Osler states that in a case of cancer of the stomach he has known a gain in weight of ten pounds follow the visit of an optimistic consultant.

Besides the factors that make for success, which are common to all the heretical cults, most of them have some special feature which may be overlooked by the regular practitioner. The members of the medical profession are not angels. We do not even claim to be supermen. We are just men, and, as such, are liable to some of the mistakes and foibles common to the rest of humanity. At times certain therapeutic procedures, good enough in themselves, receive an undue amount of attention from the profession at large, to the relative neglect of other good things. The occasional formation of a medical heretical cult may thus at times do either direct or indirect good by calling our attention to some phase of truth that is for the time being neglected by us. Thus there is no doubt that Hahnemann, aside from any positive truth there may be in his system, did good by calling attention to the fact that the violent methods of treatment that were in vogue in his day were unnecessary, and in many cases no doubt detrimental to the recovery of the patient, and in this way enabled us to perceive more clearly than we otherwise might have done how much is embraced in the phrase, "*Vis Medicatrix Naturae*."

The Christian Scientist, with his affirmations of health, emphasizes the truth that some ailments are perpetuated and aggravated by undue attention and are best treated by skilful neglect.

The osteopathic, chiropractic and kindred cults call our attention to the fact that in certain cases mechanical factors enter into the causation of disease, and mechanical means of cure are not to be lost sight of.

Even the patent medicine fakir, with his ridiculous claims for his cure-alls, probably helps to preserve the balance by preventing us from embracing the therapeutic nihilism, so far as drugs are concerned, which is said at some time or another to threaten nearly every practitioner. No doubt some of us, at times, resort too freely to drugs, and this, combined with the wholesale and indiscriminate swallowing of patent medicines and other drugs, in which the laity indulge to such an extent, makes us think that possibly Dr. Oliver Wendell Holmes may have been not very far from the truth when he said that if all the drugs that had ever been invented were cast into the sea it would be so much the better for man and so much the worse for the fishes. And yet drugs have their place. Which of us, for instance, would care to be forced to treat a simple case of scabies without resort to drugs of any kind? The affirmations of Christian Science and the manipulations of the Osteopath would each or both be considerably helped by the additional use of a little lard and sulphur.

While, therefore, we believe that most heretical cults are largely the offspring of enthusiastic ignorance, we should not lose sight of the fact that often there is a proportion of truth in their delusions. The life of the medical practitioner would, perhaps, be more comfortable if they did not exist; but I am afraid it will be a long, weary day before we are entirely rid of them; and in the meantime, perhaps, it would be well for us to regard them to a certain extent as thorns in the flesh, to remind us that we are not perfect. I am reminded in connection with this subject of what Westcott makes his fictitious character, David Harum, say: "A certain amount of fleas is good for a dog. It keeps him from broodin' on bein' a dog."

Nor must we forget in connection with this subject that there are other classes of heresy and heretics. Although we are bound by no written creed, and, as a rule, are eager to greet the light from whatever quarter of the horizon it breaks forth, this has not always been the case. Occasionally a man will arise who, with full knowledge of and consideration for the generally

accepted views, will dare to announce a new discovery or principle of action. These men have not always been received with acclaim. We have in the past occasionally stoned our prophets. Such a man was Semmelweiss, who was one of the first to proclaim the doctrine that some cases of puerperal fever are due to contagion. He was persecuted by his brethren, and died before the general acceptance of his teaching.

Such another man was our own Lord Lister, who, in the earlier stages of his attempts to perform surgical operations in such a way as to prevent the onset of such terrible complications as septicæmia, pyæmia and hospital gangrene, was ridiculed by his colleagues, and received his first enthusiastic support from surgeons of other lands. Fortunately, Lister was sure he was on the right track, and had opportunities that enabled him to go ahead and in time demonstrate the essential correctness of his principles, and receive the homage of the civilized world.

What are the practical conclusions to be drawn from our consideration of this subject?

In the first place, with regard to legislation. In the nature of things, we cannot exterminate Medical Heresy, but may do something towards keeping it in check. If, as our representative states in his circular, the Homœopaths have worked, as a unit, with the other members of the Council towards the advancement of the best interests of the profession, it appears to me that the present crisis affords them an excellent opportunity to demonstrate that they are capable of rising above sectarian prejudice and doing something that would, in my opinion, go far towards simplifying legislation and work to the best interests of themselves, the general profession and the general public. They are men of education and experience, and must realize that however much there may be in the law of similars and the increased potency of drugs, according to dilution, these are not laws which can be universally applied to the best advantage in actual practice. Let them drop the use of the term Homœopath, and let us all be content to be licensed practitioners, free to use for therapeutic purposes any or all methods which appear to be the best available. If they be not willing to do this, it appears to me that our legislation for years to come will be a hopeless muddle. So long as we have "paths" of any kind within the Council, how can we refuse to admit more? The Homœopaths should interpret the handwriting on the wall, and learn that they cannot much longer enjoy the privileges of a special medical sect. The Osteopaths are already at our gates,

clamoring for admission. I have no statistics on the subject, but I imagine that there are already nearly, if not quite, as many Osteopaths and Chiropractics as there are Homœopaths in the Province. If admitted on equal terms with the rest of us, how many representatives are they to have? And if they are admitted, on what logical grounds can we keep out Christian Scientists, Neuropaths, Psychopaths, Hydropaths, Physical Culturists, and all the rest of them? It will just be a question of them getting a sufficient influence with our legislators at Toronto, among whom there are always a few who are ready to shake the big stick at us and threaten us with extinction if we are not careful.

There should be one path of admission to the licensed medical fold, but within that fold the greatest therapeutic liberty that can be practically allowed. I am not prepared to say just how long, straight and narrow that path should be, but I think we should carefully consider the possibility of making the scholastic conditions too severe, and of such a nature that only the rich man's son can hope to enter the profession. The main thing is to have the preliminary education and the special training of such a nature that the practitioner can, after his graduation, grow in efficiency, and continue to be a student capable of intelligently adopting new methods after they have been generally accepted by those who have special opportunities for testing them.

In spite of the advances that have been and probably will continue to be made in the knowledge of the nature and treatment of disease, we are as yet far from perfect, and in spite of the light which we possess we should remember that we are all children of a common humanity, struggling through great darkness. Few or none are capable of seeing truth in all its phases, but after making due allowance for this, it would appear that there are some who, for ulterior purposes of their own, love darkness rather than light. The number of these, however, is perhaps not so great as those who unconsciously magnify the importance of what little knowledge they possess. We should not, however, keep our eyes entirely closed to the little twinklings of light possessed by others, whom we may be at present inclined to class as heretics, either within or without the profession. We must bear in mind that, of one hundred such glimmers, although ninety and nine may be evanescent and not worth adding to our own stock, possibly the hundredth may be.

On the other hand, let us not be deluded by the clamorous bearer of a rushlight into believing, along with himself, that he has a monopoly of the light of the sun.

ON A CASE OF CRYPTOGENETIC ANAEMIA*

BY O. C. GRUNER, M.D.

Pathologist to the Royal Victoria Hospital, Montreal.

Common as cases of anæmia are in every-day experience, they come into the hands of the pathologist so seldom, that it is a matter of very great interest to study these few cases with a view to determining how it is they have died, and in what points lie the difference between the every-day anæmia and the severe fatal anæmia. It is a well-known fact that the word "anæmia" expresses nothing more than a mere group of clinical symptoms which may owe their origin to any cause, whether it be the so-called blood poisoning, whether it be some definite organic disease, or be entirely of an obscure nature; it would be advisable to distinguish between these different conditions preparatory to discussing the autopsy findings characteristic of severe anæmia. The expression "blood-poisoning" in the public mind means nothing more than poisoning by some obscure agent, usually related to some external wound. Strictly speaking, it should mean "poisoning by blood poisons"; but the public does not know what a true blood poison is, and cannot define the term in that manner. In pharmacology, a blood poison is a methæmoglobin former, a conception which limits the scope very considerably. It would be more logical to define these poisons as substances which can alter the composition or structural characters of the blood in an injurious way, manifested by: (1) Alterations of shape and size of red cells. (2) Alterations of the white cells along degenerative lines. (3) Changes in the plasma (ionic concentration, osmotic changes, etc.). These phenomena are produced by two important groups of conditions which are conveniently classified into: (a) Anæmia of known origin (cancer, phthisis, hæmorrhage, bacterial infection). (b) Cryptogenetic anæmia. The last named indicates that the cause of the disease is unknown, and includes all the conditions hitherto classed as "Pernicious Anæmia," "Severest Anæmia," etc.

How are the anæmias of the second class to be studied? The first striking feature about them, is the inability of the physician to decide on the actual nature of the processes at work, added to the fact that it is in just these types of case that the examination of the deceased proves to be of considerable value, especially if

*A demonstration given on an autopsy held in the hospital, February 8th 1913.

it be aided by a study of animals, experimentally rendered anæmic by various agents. The first point which is of interest to the student in particular is, what lesions are to be expected at autopsy on a case of severe anæmia? The case at present to be discussed illustrates the findings very well. It is that of a woman aged 34, who was admitted to the hospital for loss of appetite, vomiting, and general ill-health; 18 months before, she had experienced similar symptoms, but they apparently subsided spontaneously. Six months ago they recurred, and again subsided, and then a month later she returned to the hospital for the last time.

The conditions recorded in the clinical notes are characteristic, and may be summarised in the following few words: Extreme pallor of the skin and mucous membrane; teeth in a bad condition; the nutrition good; slight œdema around the ankles; ability to feel the spleen. The blood count in this case showed: "1,270,000 R.B.C. W.B.C., 1800; Hb-, 20%; eosinophiles, 2%; poikilocytosis; megalocytes; microcytes; no nucleated reds; basophilic degeneration; polychromatophilia." There was a trace of albumen in the urine, on the day of death hæmorrhages were found in the retina, and also one or two under the skin. There was also a difficulty of hearing and impairment of vision. The temperature was slightly raised (102). The pulse rate was considerably increased (132). The case was diagnosed as "Per-nicious Anæmia."

The autopsy showed a number of very characteristic lesions which may be described in the order in which they were found, in order to enable them to be remembered:

(1) There was an *abundance of subcutaneous fat*; this was very noticeable, especially in consideration of similar striking findings in other cases of severe anæmia; the fat has a peculiar yellow color; this is also quite characteristic.

(2) The *Heart*. It will be seen at a glance that this heart is very degenerated, if attention be paid to the following points: The contour of the open organ; after the usual incisions have been made all the walls lie flat and splayed out, and after a few minutes the organ tends to apply itself uniformly to the surface on which it is placed. The second point about it is its color. Looking at the left side alone, as being sufficient for the purpose of diagnosis, we see a yellow spotted marking of the endocardium beneath the aortic orifice, and in the papillary muscles. In addition to that, the whole of the tissue appears of a peculiar lemon yellow tint. This specimen exemplifies the fact which one is always laying stress on, namely, the different colored tints be-

longing to the yellow series seen in many organs under different diseased conditions. It may be laid down as a maxim, that yellow colors all mean different and distinct lesions of importance to the pathologist. In this case it is as described, meaning a deposition of fat throughout the muscular fibres, associated with an actual degeneration of the muscles. The third point is the fact that the cut surface has a roughened ragged appearance, which is quite characteristic, even without the additional information derived from pressing with the finger into the muscle and noticing whether it is friable or not. This ragged appearance goes with degeneration of the muscle from any cause.

(3) The *Liver*. This again exhibits a peculiar yellow color, slightly browner than in the case of the heart. The organ is rather large, of a square shape, and exhibits on section a bright yellow color with more brilliant yellow spots within the centre of each lobule. Close examination will show these points quite clearly, but they are rendered more distinct by the following expedient: Take a thin slab of the liver about half inch thick, and place it in a narrow jar so that the lower half can be covered with a conveniently small amount of Sat. K_4 . Fe. Cy_6 . In about a half-hour's time this solution is poured away and the liver washed; it is then replaced in the jar and covered again with a weak solution of about 5% of HCl. In another half-hour the covered area will appear blue, and if left over-night will become deep blue, and it is then possible to see what could not be made out before, namely, the existence of connective tissue, which is now stained a deep blue, leaving the yellow lobules very clearly marked out. This is a naked eye method of doing the "iron reaction," and is far superior to that adopted for microscopic tissues, because it is so easily seen, and dispenses with the instrument. To summarise the characters of the organ, we have loss of evident differentiation of the cut surface of the liver; yellow change of color, and the deposition of iron in the connective tissue. The loss of differentiation is evidently due to the swollen condition of lobules which have become loaded with fat.

(4) The *Kidneys*. These were heavier than normal, and showed a similar loss of differentiation to that noticed in the liver. The color was the same, and the iron reaction could be just as well obtained. The increased width of the cortex, which was noticeable, was also of interest in connection with the evidence of cloudy swelling, added to fatty degeneration and iron infiltration which it affords. If we were to study these sections with Scharlach R. and Nile Blue we should find exactly what kind of fat was present within the cells.

(5) The *Spleen* shows few characteristics. The points to notice are its slight enlargement, its firmness, its maroon color, and the wrinkling of the capsule. On cutting the organ open, it is found that the trabeculæ are very conspicuous, so that even at a distance one is able to see the white lines running through the organ; the surface is also a bright maroon, and it is to be seen that the cut surface does not bulge outwards, nor does it hollow inwards. These points are of importance in deciding what one wishes to know, namely, that the trabeculæ are a little thickened, that the pulp is evident and not particularly fibrous, and lastly that the Malpighian bodies are conspicuously enlarged. It is important, however, to notice that the Malpighian bodies are not a fixed element, they vary in size from time to time, and there can be no doubt that they may disappear or reappear, so that it is quite valuable to look and see whether they are numerous or scanty, large or small, regular in shape or diffuse. To mention a very crude instance, in miliary tuberculosis of the spleen the tubercles are situated in these bodies.

(6) *The Bonemarrow*. Being interested in this material, one has been in the habit of having the sternum sawn open every time there is an autopsy. In the present case it is seen that there is a hollow in the manubrium, which corresponds to the scooping-out produced by a knife; what does this mean? It informs us of three points: (1) That the bone tissue is scanty; in other words, that there is an atrophy of the trabeculæ, otherwise it would not cut with a knife. (2) It shows that the marrow tissue itself is very abundant and juicy. (3) It reveals the semi-gelatinous character of the material. The prune-juice or apply-jelly color of the tissue is characteristic, but unfortunately is readily lost when the specimen is preserved; yet it is a very characteristic feature of such cases of severe anæmia as the present.

(7) *The Hæmolymp Glands*. We are told that these are present in any human subject. The only thing that can be said is that they are very difficult to see with the naked eye, if they are there at all; and it is therefore of great interest to find in a case of this description that they are very easily seen. One looks for them particularly on each side of the aorta, where they appear as deep blood-red oval masses of the natural size of a lymph-node. They may be seen in other situations too, but would not be searched for anywhere else in the first instance. Without going into any details about these bodies, one might merely say that they are also probably temporary in character—might be here to-day and gone next week.

(8) *Petechial Hæmorrhages*. These were found along the

alimentary tract, and were quite striking, especially when considered in association with the finding in the last hours of life of hæmorrhages in the retina.

This last completes the lesions which one would expect to find, and look for, in a case of severe anæmia. They were present in the case we are discussing, and they would be present in any other of the same class of anæmia. There were, as it happens, one or two other lesions in our case which have some interest in connection with the cause of the disease, but it is best to defer reference to them until later.

It is important to form a mental picture of the tissues as they would appear through the microscope, before endeavoring to piece together the various details of the whole case, and it is very interesting to find how closely one can portray the appearances under the microscope from a careful study of such points as I have referred to just now; thus the heart, liver, kidneys and spleen are bound to show cloudy swelling; we know that there must be a deposit of fat lobules because of the yellow color, and we know that there is no increase of the fibrous tissue, while we have actually shown the presence of the iron in the trabecular tissue. As already mentioned, if we particularly wish to know which kind of fat is present, all that is necessary is to make frozen sections and stain them, but as it happens it is hardly worth while doing so now, because it will not explain the nature of the disease which lies before us.

In the case of the spleen, we shall see little more with the microscope than with the naked eye, because we have already noticed the size of the follicles, their degree of differentiation and the character of the pulp. A striking histological feature is the abundance of free blood pigment in the latter.

The hæmolymp glands too do not deserve special consideration; it will not help us to decide on the nature of the anæmia, whether we know that they are myeloid, hæmic or splenoid type.

There remains the bonemarrow, and it is here surely that we shall find out certain points of paramount importance which cannot be determined with the naked eye; indeed we shall have to consider the structure of the tissue with the oil-immersion lens, or the very highest magnification that we can obtain. It is advisable to recall for you a mental picture of the structure of the normal marrow, in order that you should understand the changes which have taken place in the present case. Taking a single low-power microscopic field, the first noteworthy point is the presence of a number of capillary blood vessels, which are at some times rather empty, at others rather engorged; probably

one or two portions of bone trabeculæ would be noticeable. The blood-vessels are separated by a medley of rounded cells of various sizes—formative cells proper; these are the parent cells of the red blood corpuscles and the leucocytes of the circulating blood; some of these are very large, others of medium size, and others again of very small size, like lymphocytes. Here and there are to be seen large, round, clear spaces—the fat cells which are of great importance because they constitute part of the automatic mechanism connected with the production or manufacture of the blood corpuscles; in the first place they supply the nutrition necessary for the mitotic processes going on in these cells, and in the second place they replace the loss of proper cells when circumstances in some other part of the body lead to their being drained away from the bonemarrow. You will see that there is no other yielding tissue present, the bone will not give way to compensate the varying numbers of these cells, nor is it likely that the blood vessels will dilate or contract in order to save the tissue from the vacuum which nature abhors. To begin with, the very dilatation of the blood vessels would necessitate an increased production of formative cells and defeat its purpose; consequently we see that the fat spaces form a convenient padding material which can come and go as the blood cells become numerous or diminished; as they diminish, the fat cells become larger, which is just what is necessary because some food supply is required to produce more cells. As the cells multiply, they drain off the food within the fat cells and so lessen the size of the latter just at the same rate as the cells increase in numbers.

We have here a sufficient sketch or impressionist picture of the structure of the bonemarrow, with enough information about the metabolism of the tissue to enable us to understand the features of the present case. All that you need to add is some idea of the differences between one formative cell and another, as seen by the aid of a magnification of about 10,000 times.

What changes should we expect in a case of severe anæmia? In the streptococcic infection, which is a very good example of the agent producing extreme anæmia, we find a marked change in the bonemarrow, providing the patient is "reacting"—we find that the cells called leukoblasts (or usually, myelocytes) are greatly increased in numbers, and all the stages of development between them, and polynuclear neutrophile leucocytes are in evidence. The other important constituent of the formative cell group is the erythroblast, which is the parent cell of the red blood cells; if you write the words leukoblast, erythroblast, under

each other, you will notice that they are antagonistic terms, referring to the formative or parent cell of the white cell series, and the red cell series respectively. Although I have stated that the leukoblast is usually known as the myelocyte, you must not understand the two terms to be exactly synonymous; the leukoblast is really the parent cell of the myelocyte. Now these two series of cells can be readily distinguished if you just look at the nucleus; when you will see that in the leukoblast it is large, rounded and covered only by a thin layer of cell body, while it has a very finely granular structure something like ground glass. Some of them will contain special granules. The erythroblast on the other hand has a much smaller nucleus, and is always marked by a shadowing along the edges and in the centre; it has some resemblance to a cartwheel with its axles and spokes. The cell-body is considerably larger in relation to the nucleus, and in the older forms, and successive generations the nucleus shrivels up and appears very dark, until we have what is commonly called a "pycnotic normoblast."

While an infection is characterized by overgrowth on the part of the leukoblastic series, an intoxication (of a suitable degree of virulence) is followed by a great increase of the erythroblast series. In usual circumstances, the activity here would be manifested by the production of normoblasts, the familiar nucleated red cells that you look for in the blood smear; in the present case, however, we find that this is not the case, for the predominant cell is a megaloblast—a fact of very great interest. This megaloblast was studied very well in the present case, and one might speak of the marrow as exhibiting a "megaloblast reaction." It is considered quite exciting to find a single megaloblast in a *blood-smear* on clinical examination, but you will see that when you have a *tissue* of this kind to study, these cells come to be quite commonplace, because we never see a field in the microscope without them.

The chief difference between a megaloblast and a normoblast is its size, and the size of the nucleus. Very often, as in the present case, we find that they stain a peculiar purple color with eosinate of methylene blue, called polychromatophilia. The megaloblast form of development of the red cell must be looked on as an entirely abnormal occurrence, and because they are present in such large numbers in this case, we conclude that there must have been a very serious toxic action on the bone marrow cells themselves. Many of these nucleated red cells show marked degenerative changes in the nucleus; sometimes they break into fragments; sometimes the nuclear matter just dis-

solves away. In either case, the blood comes to receive what is called the "megalocyte," which was found by the clinician in the blood-film of this patient. But you must remember that a megalocyte is not always a megaloblast which has lost its nucleus, because the existence of osmotic changes in the blood serum would cause any of the red cells that happen to be sensitive to swell up to a great size; however, we could almost certainly distinguish the two forms, because those megalocytes which stain a peculiar purple color referred to, do not possess sufficient hæmoglobin; on the other hand, a polychromatophilic normocyte would not be very resistant, and might easily swell up into a polychromatic megalocyte.

You will ask how it is that these megaloblasts get into the blood stream at all? If we found leukoblasts in the blood stream, we should call the case "leukæmia," but in the present case we do not alter our title from "anæmia." The reason is simple—it is that the erythroblasts are much nearer to the blood vessel wall than are the leukoblasts, so that as a matter of fact if the former divide at all, their daughters are already half within the blood-stream, and can easily be washed off into it. The leukoblasts on the other hand are never so close to the blood channel that they can get into it by natural processes.

It is now possible for us to piece together the various points we have noticed. The pale color of the skin and the tendency to plumpness of contour, the fatty change in the liver and kidneys indicate the *existence of lack of oxidation*, and this accounts for the accumulation of fat in the tissues. It is easy to understand why there should be lack of oxidation—you will bear in mind that there is too little hæmoglobin in each corpuscle (in the present case there was only 80% of the natural quantity). In pernicious anæmia, there is supposed to be an increased amount in each corpuscle, although the quantity per unit of blood is much diminished. As a matter of fact, it is probable that even here the hæmoglobin is altered in constitution, and turned into an isomeric body which gives a higher reading with the hæmoglobimeter, just as methæmoglobin would, each corpuscle having actually a lower content in pernicious anæmia, just as much as in other anæmias.

The existence of iron in the tissues is explained as the result of an *increased destruction of the red cells* in some parts of the body; this may be partly in the ordinary situations, and partly as the blood is actually circulating, because some form of toxin is acting upon it all the time; we are further supported in that idea by the fact that there are petechial hæmorrhages, which

generally mean poisoning of the endothelial cells lining the blood vessels, so that small holes appear in their walls, and a few red cells leak out.

The last question to consider, is whether we can assign a definite place to this particular case of anæmia? We have already spoken of cryptogenetic anæmia, which is only another word to cover our ignorance of the nature of the case; are we to use that term for this disease before us now, or are we able to put it into the first class? You will see that the indefinite character of the lesions prevents it being a case of cancerous or tuberculous anæmia, and we have not found any evidence of bacterial infection. It is true that we have evidence of repeated hæmorrhages, because it was found that the uterus contained blood-clot, and that there was a hæmorrhage into the right ovary. The former suggests that perhaps there may have been menorrhage; however, there was no endometritis, and there were no fibroids in the uterus, so that these two sites of hæmorrhage must be no more than a part of a general tendency to hæmorrhage which was exhibited by the case. We have, therefore, to place the disease among the cryptogenetic anæmias after all, and a few words must be said in order to give you a little clearer conception about them than is usually given in the text books.

Almost the first idea that was ever had about the nature of the blood was to the effect that it is fluid medium serving the sole purpose of carrying food to the tissues, and taking away their effete products. But this simple conception has been unnecessarily obscured by the descriptions of the so-called diseases of the blood. If we look upon this fluid as nothing more than a transport agent, it becomes evident that the existence of a toxin within it does not make it diseased, but *only polluted*, just as a river might be by sewage, and although this pollution incidentally causes damage to the circulating cells, there is no reason whatever why it should not suffice to remove the pollution to restore the patient to health. The difficulty is merely that of knowing what is the exact kind of substance introduced, and where it comes from. The few instances in which a poisonous agent is known are not of much importance to you as practitioners, and although we have found evidences even in this laboratory that some cases may be of the nature of a filterable virus, at the present time there is nothing more definite to be said about it. Having grasped this viewpoint, you will realize as a fact that a mere loss of blood (corpuseles or plasma constituents) would not cause anæmia as we understand it clinic-

ally, were it not that there is at the same time some interference with the replacement of the loss by the blood forming organs; and consequently we have to look for an explanation of this failure to renew the loss. If the bonemarrow fails to make cells at all, the condition would be called an "aplastic anæmia." If the bonemarrow goes on making cells to a proper extent, and yet the destruction in the blood stream continues to an excessive degree, we call this "hæmolytic anæmia." If the bonemarrow makes cells in an abnormal manner we call it "myelopathic anæmia."

Although these few possibilities do not cover the whole list of changes which may take place, they will be enough to show you that from the pathological side at any rate there is not likely to be any specific blood picture, which would enable you to say "this patient has pernicious anæmia, and that patient has not." But one should classify the disease in the rather unsatisfactory manner of taking them according to the ratio of the changes which are produced in the bonemarrow to those produced in the blood. I say "unsatisfactory" because you will see that this means that you can only diagnose the exact disease from the autopsy. Otherwise one would divide them into those which are at the present day curable, and those which are not. It is such a conception which leads you to understand how it is that Hunter calls the cases which are incurable "Severest Anæmias"; and although one would not go so far as to say that every one of these kinds is due to the *same* kind of bacterial infection, the fact remains that it is far easier to go to your patient with this question only in mind: Can the patient be cured, or not? And one of the signposts in favor of the latter prognosis would lie in the finding of such cells in the blood as I have explained are conspicuous in the bonemarrow. It is these cells which show that there is something radically wrong with the formative tissue in the bones, something more than a mere pollution of the blood, something exciting a profound paralyzing action on the blood-supplying mechanism; and we have to content ourselves with waiting for discoveries which would point out the way towards diagnosing the exact nature of the noxious agent, and ultimately determining a means of destroying it.

Selected Articles.

THE CHILD'S MOUTH AND THE FUTURE MAN*

DR. R. G. McLAUGHLIN, TORONTO, ONT.

PREVENTION, written in large type, is, to-day, the one central word in the discussion of all matters pertaining to disease and ill-health.

So I most heartily congratulate the people of Woodbridge because of their effort to gain more knowledge on the question of Oral Hygiene, or the proper care of the mouth and teeth. The very close relation which the condition of the mouth and nose bears to the health of the whole body has only been fully realized even by the healing professions in recent years. However, at the present time the question seems likely to come to its own and occupy the place in the public estimation which its importance demands.

Most of you are perhaps aware that to-day many of the positions in life requiring physical stamina and endurance are closed to the applicant with badly broken down and diseased teeth and gums. Why? Because recent knowledge and experience have proven that a man or woman whose mouth is in the condition just described is more likely to contract many of the communicable disease, and also such a mouth detracts more or less from one's mental and working efficiency. The most up-to-date hospitals of to-day will not accept an applicant to train for a nurse without a certificate from her dentist that her teeth are in proper condition. Applicants for the army and navy must present themselves with their mouths at least in fairly good condition before they will be accepted. Another significant fact is that many life insurance companies are now instructing their medical examiners to pay decidedly more attention to the conditions in the mouth than before. These facts go to show that gradually the public is getting a grip of the importance of this subject.

The importance and care of the teeth is a very large subject, by far too large to be covered in the time at the disposal of this

*Address delivered at Woodbridge before the Members of the Women's Institute Teachers and Parents.

gathering. So, with your permission, I will confine myself to the close relation which the condition of the child's mouth bears to the after man.

"This is the Age of Prevention," is perhaps a somewhat stereotyped phrase, but most assuredly a phrase nearer the truth to-day than when first uttered. Governments, health departments and parents are gradually being convinced it is easier and less expensive to prevent disease than to cure it. Hence, the many precautions taken and moneys expended to properly safeguard the water supply, the milk supply and the meat market. The truly family physician of the future will be the one who will make periodical visits to the home, examine the surroundings, the daily food supply and habits, give professional advice with a view of warding off threatened physical ailments or epidemics. This might be termed a real part of preventive medicine.

So our intention to-day in this talk is to take the mouth into our care in early childhood and so prevent a host of future ills.

The editor of the *Digest* makes a somewhat startling statement which I want to enlarge upon and emphasize and even take for my text to-day. His statement is to this effect: "The condition of the child's mouth and nose up to six years of age determines to a large extent the after man or woman." Or, to put it in another way, if the child, up to the age of six years, has been under proper professional advice and care, he has been given the best possible assurance of future mental and physical powers.

Such a statement seems indeed to be a somewhat daring one. But there are very strong reasons for such a declaration, and right here let us examine these reasons.

Nature has made one great gateway to the body—one gateway in two parts—the mouth and nose. Through this double receiving way enters everything that goes to develop and nourish the body, as well as many of the things that bring disease and death.

Now I want to emphasize this point that the two different parts of this gateway have each their own particular functions to perform. If the nose is left free, and is capable of performing its own particular duties properly, and likewise the mouth, and teeth, then all is most likely to be well; but if not, then much evil may and likely will result.

The nose is the channel through which Nature intended the air should be carried on its way to the lungs. It is specially constructed for this particular purpose. If you examine the inside of the nostrils, you will find growing out from the lining membrane fine projectiles of hair through which the air must pass,

and these act as a filter by arresting all germ-laden dust particles and other impurities. Also, these passages are so constructed that the air is warmed and properly moistened before entering the lungs. Now that is Nature's plan for guarding the lungs against impure, dirty and cold air, and we must admit it is wisely planned.

But suppose Nature's instructions in this matter of breathing are not carried out, as, alas, is too often the case. Suppose the child forms the pernicious habit of breathing through the mouth, or it may be, as it often is, that the nasal passage is obstructed either by adenoid growths or enlarged tonsils, and is compelled to breathe through the mouth, and becomes what we call a "Mouth Breather." What, then, are the consequences?

PARTIAL DEAFNESS.

How often have you had people in middle life say, "I'm getting a little hard of hearing." Something must be radically wrong, or this should not be. In the naso-pharyngeal wall at the back of the mouth you will find two little tubes, one leading to each ear. Their function is to carry air to the inner surface of the ear-drums, which is necessary for acute hearing.

Now, if you have been a habitual mouth breather, then the cold, dirty, unfiltered air is constantly irritating the orifices and lining membrane of these tubes, until the tissue becomes so congested and swollen as to partially or totally close the entrance to them. The air supply to the ear drum is shut off and consequently the hearing is affected.

HOLLOW, FLATTENED CHEST.

If the air is taken into the lungs through the nostrils alone as Nature intended, then it must pass through a somewhat narrow and tortuous channel. In order to draw sufficient air through this channel to fill the lungs every few seconds, considerable effort is required on the part of the chest muscles. By this constant exertion the chest is developed and the lungs given sufficient room to expand, and so we have what we call good lung power, and a well-formed chest. Now if, instead of this, the air is taken through the open mouth, then sufficient air can easily rush into the lungs without any material exertion of the chest muscles, and so the muscles become weak and flabby, the blood supply scant, and as a consequence the chest fails to expand and finally assumes the flat, hollow appearance.

And so we might go on to show that these adenoid growths

and severe congestions in the regions of the nose and throat interfere more or less with the circulation at the base of the brain, and so the habitual mouth breathers are often not as bright mentally as other children. But quite enough has been said to bring out fully the train of evil consequences that may and frequently do overtake the boy or girl who is, by force of circumstances, or by habit, a mouth breather. Now let me say this to you, parents and teachers: If there is a child in this school to-day whose nasal passages are so obstructed that he is compelled to breathe through his mouth, you are not giving that child a "square deal" in life. He is handicapped in the race with the more fortunate children.

THE TEMPORARY TEETH.

Another serious mistake frequently made by parents is in reference to the importance to the child of the temporary or first teeth. The prevailing opinion seems to have been that it is useless and a waste of time and expense to look after the first set of teeth. The child will soon lose them all at any rate and others will come to take their place, and then proper care will be taken. This is a fatal mistake, and one that generally works a grievous injury to the boy or girl in after life.

If a boy is to grow and develop, he can only do so by getting a sufficient amount of nourishing food, and, let me add this: that food must be properly masticated by means of good sound teeth in order that he may get all the nourishment out of it. In the case of food that is bolted, or just partly masticated, only part of it goes to build up the body, and the remainder really becomes so much poison that proves a hindrance to growth and development.

Now, suppose one or two of the child's first molars on one side of the jaws become decayed, and the nerve, in time, is exposed. Mastication of food on that side causes pain, and at once the child ceases to use that side. The teeth are still neglected and a cavity develops in a molar on the other side. The nerve here in time is also exposed, and now the child finds it painful to masticate on either side. What follows? The food is bolted—taken into the stomach without proper preparation in the mouth. This of course results in the stomach being overburdened in its effort to do its own legitimate share of the digestive process, and also that part which should have been accomplished in the mouth. Here, then, we find one of the first and main causes of indigestion, with its usual train of physical and mental ills.

Now, a child whose teeth and mouth are in such a condition,

who is suffering more or less from toothache and abscesses, where pus is oozing into the mouth and swallowed with the food, is not likely to make much progress either physically or in his studies. In short, if there is a child here, whose mouth is in such a condition, that child is not getting a "square deal." He is working under another serious handicap.

Besides all this, these decayed teeth and diseased nerve canals form a splendid harbor and breeding-place for some of the most dangerous disease germs, such as the germs of tuberculosis, typhoid, diphtheria and pneumonia. In this case of tuberculosis, the germ frequently finds its way through the canal of a lower dead molar to the glands of the neck. Hence, in the case of badly decayed lower teeth we frequently find in connection therewith the typical swollen glands of the neck.

A child whose teeth and mouth are in that condition may well be considered a serious menace to the whole school. Specially to the child seated next, who is most likely to be in the danger zone when such a one is sneezing or coughing.

It has been demonstrated that a large percentage of our school children have mouths in such a condition as I have described.

Recently in Toronto we made an examination of the children's mouths in two of our schools. In one of these schools we found that at the time of examination 42% of the children were suffering from toothache, that 45% had pus exuding into the mouths from diseased teeth and gums, 87% of the mouths were not considered clean, and 99% needed some dental treatment.

That is the appalling condition we found in one of the schools of our fair city about one year ago. When such was reported to the members of the School Board they began to think matters were indeed serious, and as result a dental inspector was appointed to see that the children's mouths were properly and regularly examined, and to give instructions on the importance and care of the teeth. Also, at this time we are having established and equipped a free dental infirmary, where the poorer children of the city can be relieved of toothache and have their teeth put in proper condition. When we have that much accomplished then will the poor children of our schools have a better and fairer chance in life than ever was accorded them.

In many parts of Germany to-day, no pupil is allowed to attend school without first presenting a certificate that his teeth are in good condition. If the parents cannot afford to pay the regular fee at the dental office the child is at once sent to the dental infirmary where he is attended to.

That is the ideal condition we are aiming at here, and I am convinced that such a condition will, in time, prevail in this and every school in the province.

Now, in closing, let me give you a few words of advice about the daily care of the teeth. Such may be boiled down to one sentence. Use a small brush, plenty of pure water, and a goodly share of what we call "elbow grease." If possible, brush the teeth in the morning, after each meal, and before retiring at night. The important time is before retiring.

The prevailing practice of brushing back and forward across the teeth is not a good one. The bristles of the brush do not get between the teeth by this method. Rather, brush from the gum towards the crowns of the teeth. The uppers in a downward and the lowers in an upward direction. Use this method both for the inside and outside of the teeth. If you desire to use a tooth powder or paste, get the advice of your dentist as to the proper one for your particular case. But, as I have said, the important factors are a proper brush and plenty of water, intelligently used.—*Dental Practice.*

SOME ACUTE ABDOMINAL PAINS WHICH DO NOT REQUIRE OPERATION

BY FREDERICK TAYLOR, M.D., F.R.C.P.

Consulting Physician to Guy's Hospital; Physician to the Seamen's
Hospital, Greenwich.

Acute pain in the abdomen has a real interest for both physician and surgeon, and our knowledge of its ætiology has very much increased of late years. One might almost with truth say that forty years ago the diagnosis of an acute abdominal pain lay between colic, peritonitis, and intestinal obstruction, so far as the alimentary canal and its appendages were concerned, while female patients had the additional opportunity of acute lesions in connection with the pelvic organs. We now know that colic and peritonitis must have included cases of appendicitis, cholecystitis, acute pancreatitis, the pains which may be felt over the front of the abdomen in a basal pneumonia, the gastric crises of tabes dorsalis, and others to which I may have to refer.

The treatment, too, in those days was as simple in one direction—that of drugs—as some would have it nowadays in the other direction—that of surgery. Colic demanded purgatives, and peritonitis was treated with opium; and in view of the prevailing belief in the principle of keeping the *primæ viæ* clear, it became the duty of teachers to warn the student of the danger of stirring up the intestines to vigorous action when they might already be inflamed on their serous surfaces, and when rupture at some one or other point might conceivably follow. Even if obstruction by band, or internal hernia, was a possible diagnosis, it seemed wiser to ease the pain, and quiet the intestines with opium, than to hasten stercoraceous vomiting, and perhaps determine rupture, by the use of violent purgatives. Surgery was reserved for cases in which a diagnosis of obstruction could be made with some certainty; for the very good reason that operations on the peritoneal surface were constantly fatal from the inevitable introduction of septic material within the peritoneal cavity. Operations for recognized strangulated hernia were systematically and dutifully performed, and they were no doubt more successful than operations upon the general peritoneal cavity, now called laparotomy; but the frequency with which these cases died within twenty-four or forty-eight hours of the opera-

tion, in spite of the absence of the classical signs of peritonitis, was sufficiently appalling. And in medical cases, that is, cases of peritonitis not due to external hernia, there is no doubt that the treatment by opium was often successful, so long as the drug was given fearlessly, in full doses, frequently repeated. In this way, patients entirely unused to the drug have taken from six to twenty grains of opium in the day, for six or more days consecutively, and have recovered from most threatening symptoms. What was the nature of these cases, we cannot, of course, with confidence say; but that some were peritonitis started by appendicitis there can be no doubt. That surgery could be of any use in such cases, that the source of the peritonitis could be got at and removed successfully, or that the knife could do anything but relieve mechanically a bowel blocked by band or joint, seemed, in the days before Lister, scarcely to have been conceived. Even with regard to obstruction itself, the dangers of surgery were so strongly felt that a distinguished surgeon advocated in such cases the processes of inversion of the patient and kneading of the abdomen before a cutting operation was brought into requisition.

The position now is very different. The comparative immunity from danger which laparotomy, in connection with aseptic methods, now possesses justifies operation in a very large proportion of cases, not only as a curative measure, but as an aid to certainty in diagnosis. At least twenty years ago I heard the opinion expressed by an able surgeon in the north of England that the impossibility of an accurate diagnosis in acute abdominal pain rendered an operation always justifiable. Whether he would have sustained that without qualification in a reasoned theses may be open to doubt; but it expressed at any rate a strong feeling as to the difficulties of diagnosis and the safety of operation.

But the range of knowledge has extended considerably since that time, and while it must be admitted that the close similarities among some cases of acute abdominal pain is such as to need the help of the surgeon in order to *see* what is going on behind the anterior abdominal walls, it is very evident that there are other cases in which the resources of clinical medicine are sufficient to guide one as to the nature of the case, and to make any assistance from the knife quite unnecessary.

One class of cases is that in which the onset of a dorsal pneumonia or pleuro-pneumonia is accompanied by severe abdominal pain. This has been long known to physicians; but when an operation was being regarded as the chief means of

arriving at a diagnosis, or the only method of cure, it was desirable that this relation between the chest and the abdomen should be more widely recognized. The late Mr. Harold Barnard brought some cases of the kind before the Clinical Society in 1902, and his introductory remarks are as follows:¹ "Thoracic diseases in some cases produce the most deceptive abdominal signs. Modern standard works of medicine contain only a meagre reference to this condition, and it is apparently unknown to surgeons, if we may judge from their text-books." But he points out later that Andral, Watson and Fagge had recognized that peritonitis or hepatitis might be simulated by pleuro-pneumonia. The simulation was very close indeed in a case of mine years ago, in which an elderly woman had acute pain and tenderness over the liver and right flank, together with jaundice. The physical signs of an acute right basal pneumonia were soon manifest, and as the pulmonary signs cleared up, the jaundice also promptly disappeared. The jaundice, which though known as an accompaniment of pneumonia, is relatively rare in that connection, no doubt contributed to render a correct diagnosis difficult. Within a fortnight a similar case, but without jaundice, occurred in an adjacent medical ward.

The onset of pneumothorax has also been accompanied by violent abdominal symptoms deceptively like those of perforative peritonitis.

Perhaps one of the most important groups of cases in which severe abdominal pains may be misunderstood and lead to a laparotomy is that formed by the gastric crises of locomotor ataxia or tabes dorsalis. Without inquiring too closely how often this has been done, it is sufficient to say that it has been done more than once. I was told of one case in which a patient was sent to the hospital for frequently recurring attacks of abdominal pains; an operation was performed, and he was sent home. The pain recurred, the wound was reopened, the parts investigated, and the wound closed. The pains recurred, and either then, or after another fruitless operation, a physician was asked to see the case, and discovered that he had tabes dorsalis.

I have seen lying in three beds at the same time patients with early locomotor ataxia, all of whom had been operated upon. Two of them, it is true, had local signs suggestive of changes which might have been relieved by operation, but the changes found were very inadequate as explanations of the vomiting, and as a fact the pain and vomiting persisted after recovery from the laparotomy. In the third case, the patient

had suffered for more than four years from pain and vomiting; he was correctly informed at a hospital in London as to the nature of his case, but shortly afterwards at an infirmary in the country his case was diagnosed as pyloric obstruction, and a gastro-enterostomy was performed. After this, as a fact, but I will not suggest as a consequence, the gastric attacks were more frequent and of longer duration on each occasion.

A third disease in which abdominal pain may be severe enough to invite surgical interference is diabetes. That diabetic coma is often ushered in by severe epigastric pain has long been known. I remember many years ago, that when in the wards of the hospital, I was told casually by the house physician and of one of my colleagues, that he had a case under his care who had been seized with such intense pain that he thought he must have a perforated gastric ulcer. He said he was under treatment for diabetes. I at once warned him that the patient might be passing into diabetic coma, and this proved to be the case.

But I think it is only comparatively recently that this form of pain has also nearly come within the sweep of the surgeon's knife. Particulars of cases of the kind will be found in the pages of the *Lancet*.³

The first of these notices is based on two cases reported in the *Intercolonial Medical Journal* of Australia. A boy, aged fourteen, had pain and vomiting, and was regarded as suffering from intestinal perforation. The abdomen was prepared for laparotomy, and the surgeon was about to operate when it was found that the urine contained sugar and gave the ferric-chloride reaction. At that time he was semi-conscious, and later he became more comatose, and died. The other patient was a child, aged, eight, under treatment for glycosuria; vomiting and paroxysmal abdominal pain occurred; acute intestinal obstruction was diagnosed, and two medical men agreed on the necessity for operation. Some change in the abdominal symptoms, and the appearance of coma, led to the operation being abandoned, and an alkaline treatment by vein and mouth was followed by recovery. Another of these cases is recorded as having simulated appendicitis.

In the obscure disease known as Henoch's purpura, severe abdominal pain is a characteristic feature; and an interesting point in the present connection is that the abdominal symptoms may occur early in the case, while the purpura, from which the disease is named, is later, and may be relatively slight in extent. Dr. Sutherland, in an interesting paper entitled "Gastro-Intestinal Crises from Effusion into the Bowel Wall,"²⁴ has collected

a number of these cases in which it is clear that the pain was due to hæmorrhage into the wall of the intestine. In not a few a laparotomy was performed. Sometimes, it is true, a mass was felt in the abdomen, and the close resemblance to intussusception was especially noted by Dr. Sutherland. But the hæmorrhage itself may be the cause of an intussusception of the damaged part of the gut, so that a diagnosis is often difficult and complicated. However, it appears to be clear that, in the absence of a tumor, and unless the evidence of intussusception is very strong, it is undesirable to operate, as further hæmorrhage and sloughing are likely to follow, and, apart from intussusception, the operation can do no good.

Some two years previous to the reading of Dr. Sutherland's paper, I had some experience of the condition in a schoolboy, aged ten, who began to be ill with mild pyrexia. About the fifth day of his illness he vomited, and had some diarrhœa; and two days later he was collapsed, with feeble pulse, and then had an eruption of purpuric spots on the elbows, knees, arms, ears, and cheeks, but few, if any, on the trunk. On the ninth or tenth day the diarrhœa had been checked by morphia, but he now had a quick pulse, was lying on his back with knees drawn up, deep thoracic breathing, scarcely any movement of the abdomen, which was tense, but not full, much tenderness in the right iliac fossa, as well as in the left iliac fossa, and over the body generally. No dulness over the cæcal region or in the abdomen generally. Sometimes he was throwing himself about. He vomited twice the following night, but the next day the abdomen, though moving little, was more supple, and the resemblance to peritonitis gradually grew less, though he had abdominal pains, which were relieved by morphia, for some days afterwards. Some of the petechial spots sloughed, and albumen appeared in the urine, with casts—the evidence of a nephritis which persisted for months.

Allied to the above are the rare cases of mesenteric embolism and thrombosis, in which acute abdominal pain and vomiting occur, and may be rapidly followed by death. In a case I reported⁵ death took place within eighteen hours of the onset of pain. In these cases there is free hæmorrhage into the intestinal wall, and operation seems out of court.

In the above cases we see that, from the point of view of causation, they fall into three groups: those which are due to referred pains or functional nerve failure; one in which toxæmia appears to be the cause; and two in which actual lesions in the abdomen set up an obviously local pain. Another case

belonging to the first group, to which I need make but little reference, is the neurotic or hysterical simulation of gastric ulcer by pain and vomiting, not so much as a solitary occurrence, but as a repeated event; and this has not infrequently led to an operation. This pain is often accompanied by vomiting, with the appearance of blood on the vomited matter; and the repetition of the symptoms after repeated improvement has in some cases justified the close investigation, by means of operation, of the actual condition of the abdominal organs.

As a companion to the occurrence of epigastric pain in diabetic coma, and as an illustration of an abdominal pain due, not apparently, to local lesion, but to toxic influence, may be mentioned the fact that severe pain in the epigastrium, described as "epigastralgia," has been seen as the result of the injection of microbic serums for the treatment of disease. These cases were referred to, in the *Lancet*⁶, and were taken from the *Progrès Médical* of March 16th and May 11th. In the first case, 230 c.c. of antitoxic serum were injected over a period of nine days for the treatment of diphtheria; and at the end of this time the patient had nausea, vomiting, a raised temperature, extensive urticaria, pains in most of the joints and in the muscles, so that he could not turn in bed. On the eleventh day after admission—the third after cessation of the injections—epigastric pain began and was accompanied by vomiting and diarrhoea. The pain was severe, situated deep in the epigastrium, continuous, but subject to violent exacerbations, causing the patient to sit up in bed with the thorax acutely flexed on the abdomen. Temporary relief was obtained from morphia, and the pain gradually subsided. In the second case, 20 c.c. of antimeningococcic serum were injected into the spinal canal for the treatment of meningitis in a man aged thirty-eight. Almost immediately there was epigastric pain so severe that the man kept his legs flexed on the abdomen in order to relieve it. Delirium and convulsions followed, and he died ten hours after the injection. Death was attributed to the injection, and no abdominal lesion is reported which could have accounted for the pain.

These, of course, are cases which, from the circumstances attending the pain, would not be likely to invite the operation of laparotomy, but they are interesting as showing how many other sources of pain there are besides an acute local lesion.

I may also very briefly refer to the cases of abdominal pain, an instance of which Sir Lauder Brunton brought before the Royal Society of Medicine in March⁷ last under the name "Angina Abdominis." The pain was brought on by exertion,

was most severe in the umbilical region, to which it was at first confined; but it gradually increased in severity and spread all over the front and back of the chest. The pain was regarded as probably due to spasm of abdominal vessels, and as being related to ordinary angina pectoris; it was relieved by the use of trinitrin. Other similar and allied cases have been reported abroad; but on the whole it does not seem that such cases would be regarded as coming within the province of surgery.

I have not, of course, exhausted the list of painful abdominal affections which do not call immediately for operation; there remain, for instance, the different forms of colic—intestinal, renal, and hepatic—but these have long been familiar, and do not need further comment.

It remains to ask if there are any special means the surgeon or physician can take to avoid the possibility of an error, so that an operation may not be undertaken unless absolutely necessary, either for treatment or to clear up a diagnosis otherwise insoluble. As in so many other cases, the surest help to a correct diagnosis is the recognition, and the recollection at the given moment, that the disease or condition which is present may actually give rise to the symptoms of pain. To remember that in basal pneumonia, tabes dorsalis, and diabetic coma, acute epigastric or abdominal pain may occur, is half the battle. The tests for the underlying conditions may then be applied; for instance, in pneumonia the examination of the chest, and the counting of the rapid respirations; in tabes dorsalis, the examination of the pupils and the knee-jerks, and inquiry into the history of lightning pains and of previous abdominal attacks; and in diabetes, the tests for sugar in the urine.

The local symptoms are few, and as we have shown, the possible causes are many. Pain, the chief of these symptoms, that which compels us to take action, is deceptive in its varying distribution. It must, indeed, be admitted that the attempt to distinguish the various sources of pain by the characters of pain, by its localization, and by such other abdominal symptoms as vomiting, distension, rigidity, etc., has not been eminently successful; and its failure has been the chief reason, perhaps, for the prompt recourse to operation. One may instance the occurrence of pain on the left side of the abdomen in cases of acute appendicitis, and the simulation by chronic appendicitis of gastric and duodenal complaints as illustrating the difficulties.

Failing distinctive features in the pain, we turn to vomiting and to the condition of the abdomen. Vomiting is not so con-

stant as pain; it occurs especially at the commencement of an attack, whatever the pain be due to, and it may be repeated from time to time, especially if food be taken; but it may soon become infrequent if food is withheld. The state of the abdomen is also variable; often in the first few hours after a perforation the abdomen is not distended, but flat, rigid, with hard recti, and respiratory movements entirely absent or very slight. If there is much gas extravasated from the ruptured viscus, the abdomen may be distended, and the hepatic dulness may be lost. If the stomach is empty, or the duodenum or jejunum is the ruptured organ, no distension may occur until inflammatory changes have led to paralysis of the intestinal coat.

It is interesting to ask whether in the gastric crises of locomotor ataxy there is anything sufficiently constant or sufficiently distinctive to help one to a certain diagnosis even apart from the absent knee-jerks and Argyll-Robertson pupil; or rather to suggest to the surgeon or practitioner hitherto unacquainted with the patient that these points should be investigated.

Inquiry into the details of gastric crises will show that incessant vomiting is a characteristic feature, vomiting which may go on for several days accompanied generally by epigastric or abdominal pain; but not generally by much tenderness, rigidity, or distension of the abdomen. And the attack subsides, sometimes suddenly, and recurs after some months. The vomited matter is often abundant, and after food has been got rid of, consists of quantities of thin fluid—dirty water, as it is sometimes described—tinged with green. The abdomen may be retracted, or at least not distended; and the patient often writhes about, or doubles himself up, in the effort to get relief.

These features, if not distinctive, and not absolutely constant—for pain occurs sometimes without vomiting—are different from those which are most characteristic of perforation and acute appendicitis, the lesions which most often require immediate operation. In many cases, of course, the history of numerous previous attacks, at intervals of weeks or months, would put one on guard. But it may fairly be urged that in a first attack in a given patient such a history cannot be forthcoming. At least, in some cases, the first attacks are not of such severity, or of such long duration, as those which occur later; but even an early attack might be sufficiently severe to mislead, and both in such a case and in others where repeated attacks are believed to indicate a persistent lesion, such as chronic appendicitis or

pyloric stenosis, or other organic change, the protection must lie with the clinical tests of the knee-jerk and Argyll-Robertson pupil, and with the history of lightning pains.

In diabetes, the fact of glycosuria is often well known long before any nervous symptoms appear, but this is not always the case. Often, however, the patient has already become somewhat drowsy—that is, the toxæmia is already affecting the brain before the epigastric pain is felt; and it is especially noted in the two cases quoted by the *Lancet* from the *Progrès Médical*⁸ that the characteristic dyspnœa of diabetic coma was already commencing. It seems to me regrettable that Jaccoud should have described such cases as a “peritonitic form” of diabetic coma, seeing that peritonitis is not found in these cases; and surely things should be named after what they are, and not after what they seem to be, but are not.

With regard to distinguishing features in the abdominal symptoms of Henoch’s purpura, Dr. Sutherland lays stress upon the patients throwing themselves about in consequence of the pain, an event which he says does not happen in cases of peritonitis.

(*The Universal Medical Record.*)

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6. *Lancet*, 1912, Vol. I., p. 1,422.
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Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, F. A. CLARKSON, BREFNEY
O'REILLY AND F. C. HARRISON.

Some Disadvantages of Neo-Salvarsan

Beside the great advantage of easy solubility, neo-salvarsan, according to Kall (Abst. in *Wochenschrift für Therapie des Auges*, Oct. 17th, 1912), has some decided disadvantages. He has used it in 24 cases, giving 141 injections in all; highest single dose, 0.9 grm.; highest total dose, 6.3 grm. Where the injections were given in rapid succession severe arsenical poisoning was not uncommon. He has seen five cases of severe arsenical exanthema, with decidedly alarming symptoms at times. The blood pressure dropped suddenly just before the appearance of the exanthema. Neo-salvarsan decomposes so readily that it should not be used by intra-muscular injections. It should not be used in rapidly following injections, and hence accomplishes no shortening of the time of treatment as opposed to the original drug. By rapidly following injections a dangerously cumulative action is easily produced. It should not be used in office patients. Its effect on the syphilis seems to be about the same as that of salvarsan, although the Wassermann test often remains positive, for a considerable time at least, after giving it.—*The Western Medical Review*.

Sleepiness

F. Taylor, in *The Practitioner*, December, 1912, describes abnormal sleepiness; the condition is not one of the so-called sleeping sickness, but of an abnormal somnolence, such as was pictured by Dickens in his fat boy. Treatment, he says, resolves itself into dealing with the cause, whenever we are fortunate enough to know what the cause is. Local diseases about the base of the skull may be treated surgically. In obvious conditions of toxæmia, or of autointoxication, whether from the stomach, bowels, or kidneys, or of altered metabolism of any kind, the special

indications must be dealt with as far as possible. He doubts the wisdom of regarding high blood pressure, which he found in his cases, as anything more than an indication of a toxæmia. When associated with obesity, dietetic measures may be used with judgment to reduce the superabundant fat. The evidence of the participation of the glands in this symptom he considers sufficient to suggest a trial of pituitary or thyroid extract in such cases as do not present an obviously toxic element, or in those which do not do well when the apparent cause has become inoperative. If the sleepiness is the result of a disturbed balance between fatigue products on the one hand, and the gland secretions on the other, we may try the effect of supplementing the defensive element by a recourse to one of these extracts.—*N. Y. Med. Journal*.

Pulmonary Tuberculosis

An Analysis of 368 Cases of Pulmonary Tuberculosis examined at the Dispensary of the St. Paul Anti-Tuberculosis Committee, Leverett Dale Bristol, M.D., *St. Paul Med. Jour.*, Oct., 1912.

1. Of 368 positive cases, only 67 (about 18 per cent.) were in the earliest stage of the disease.
2. Only 27 per cent. of the cases had a family history of tuberculosis.
3. Fifty-two cases had pleurisy in the past, 36 had pneumonia, and 19 influenza.
4. The average age was a little under thirty years.
5. The disease occurred slightly more in males (57 per cent.) than in females (43 per cent.).
6. The occupations of housewife, clerk, student, and maid, were those mostly involved.
7. The most common symptoms were cough and expectoration (76 per cent.) and loss of weight (19 per cent.).
8. The usual methods of treatment were employed.
9. About one-half of the patients had sanatorium or hospital treatment.
10. Glandular tuberculosis was far the most common complication.
11. 56 per cent. of the patients died; 8 per cent. were greatly improved; 7 per cent. were apparently cured; 5 per cent. were unimproved; 24 per cent. left the city.—*Buffalo Med. Journal*.

The Relation of the Gastric Secretion to Rheumatoid Arthritis

Woodward and Mackenzie Wallis, in the "*Lancet*," insist on the point that, in many cases of rheumatoid arthritis, examination of the stomach contents shows a notable diminution in the free hydrochloric acid, and the digestive properties generally. They do not reject the influence of the septic factor, and rather imply that they regard the gastric condition as being, very often, secondary to oral sepsis. But the practical point is that they claim very striking results from treatment with an acid mixture containing dilute hydrochloric acid, glycerine of pepsin, oil of cloves, tincture of quillaia, and oil of aniseed. And they believe that "some definite gastric changes must be present in the disease." Their prescription is certainly an excellent one.—*Universal Medical Record*.

Artificial Pneumothorax

Faginoli (*Rif. Med.*) gives his experience in 40 cases of phthisis treated by the production of artificial pneumothorax since February, 1911. In technique the danger of gas embolisms can be avoided by carefully watching the manometer and only admitting the nitrogen when the oscillations of the columns are free and ample (8 to 12 cm.) and synchronous with the respiratory movements. Secondary infection of the pleura as a result of the puncture is so rare as to be almost negligible. In nearly 2,000 infiltrations, the author has had no seriously unfavorable results, and this he attributes largely to the observance of the following points: (1) The needle must be introduced slowly and steadily; (2) the gas should not be introduced until the manometric conditions above mentioned are fulfilled; (3) the gas in the apparatus ought to be at zero pressure and enter the pleura by spontaneous aspiration. The puncture was usually made in the eighth or ninth intercostal space in the mid-axillary line. Sometimes the patient suffers acute pain when the gas enters, but this is unusual. In one case a severe attack of pleural eclampsia followed, but was soon over and not repeated in succeeding operations. Emphysema (subcutaneous) was noticed once or twice and herpes zoster once. In 5 of the 45 cases it was impossible to produce a pneumothorax owing to the dense pleural adhesions. Caution is necessary in attempting too much where there are extensive adhesions, as hæmoptysis may occur. Of the 32 cases where the treatment was systematic

ally carried out, 27 had bilateral lesions and 5 monolateral. One of the chief and most constant of the benefits resulting was the quick diminution and disappearance of the fever, most marked, as one would expect, in the monolateral cases. Another good result was the notable decrease in the amount of excretion, but tubercle bacilli were always found in such sputa as there were. A steady increase in weight and disappearance of night sweats were the rule. Only in 3 of the 27 bilateral cases was any improvement noted in the untreated lung. Some of the patients were treated in addition with tuberculin, but without any notable advantage. Sixteen of the cases have left the sanatorium, and 8 of these have returned to work. What the final result may be in all of these cases time alone can say, but as far as they go they show that, with care the treatment is almost innocuous and clearly beneficial. The treatment was continued for periods varying from four to seventeen months.—*British Medical Journal*.

Leucocyte Count in Leishman's Anaemia

Cristina (*La Pediatria*) has examined the blood in six cases of Leishman's anaemia, and also watched the effect of injections of phagocytin. As regards the effect of phagocytin in Leishman's disease, leucocytosis may or may not appear, and this depends on whether the leucocytes are present in normal numbers or diminished. In cases where the leucocyte reaction was well marked, it did not differ from that seen in healthy subjects after similar stimulation. As a deduction from this observation it appears that the Leishman bodies do not set up leucopenia through the production of negative leucotropic bodies. The progressive reduction of leucocytes reacting to severe degrees of leucopenia which is seen in later stages of the disease or in very rapid cases indicates serious lesions of the blood-forming organs and is the expression of their exhaustion—in fact, the greater part of the medullary cells of the bone medulla become invaded by the Leishman parasites. From a diagnostic point of view, leucopenia has no value as it is generally absent in early or mild cases.

SURGERY

IN CHARGE OF E. E. KING, G. A. BINGHAM AND
C. B. SHUTTLEWORTH.

Intravenous Ether Anaesthesia

Burkhardt's ingenious system of inducing general anaesthesia by the intravenous injection of ether dissolved in normal saline solution, introduced in England with modifications by Rood, has certain manifest advantages. It has also some serious drawbacks and occasionally produces untoward results. Beresnegowsky has been investigating the action of "intravenous ether" experimentally and arrives at the following conclusions: Ether solution has an irritating effect upon the walls of blood vessels, which is a frequent cause of thrombosis in them. Pulmonary embolism is a further possibility. The solution is also detrimental to the lungs, in which it may produce swelling of the tissues, dilatation or rupture of vessels, and actual hepatisation. The kidneys and heart show changes similar to those set up by inhalation anaesthesia. This author is against intravenous ether except in certain special cases where inhalation anaesthesia is especially risky.

Coxa Vara of Infancy and Congenital Luxation of the Hip

Petit de la Villéon (*Gaz. hebdomadaire des sciences médicales*, 1912, xxxiii) draws attention to a sign which he considers, in the absence of radiography, is diagnostic of coxa vara—namely, internal hyporotation. The patient is examined in the following manner: The child is laid on the healthy side, the suspected thigh flexed to a right angle on the pelvis, and the leg to a right angle on the thigh. The surgeon faces the child and seizes the condyloid process of the femur, the knee is kept above the table, the femur resting in an horizontal plane and parallel to that of the table. The surgeon then performs internal rotation of the femur, and at the maximum of this movement measures the angle made by the leg; if this represents 45 degrees the articulation is normal, if 90 degrees = congenital luxation, if 25 degrees or under = coxa vara.—*British Medical Journal*.

The Curative Effect of Normal Animal Serum in Suppurative Processes

Gergo (*Surg., Gyn. and Obs.*, 15, 4) describes the treatment as consisting of aspiration of the pus, serum bath, serum dressings and serum irrigation. The skin over the area is painted with iodine, puncture is made with a strong needle, and the contents of the abscess are aspirated; then the cavity is irrigated with serum until the return fluid is clear or only slightly bloody. A smaller amount of fluid should be introduced than is first aspirated, so that the tension in the cavity is decreased. The residual serum is aspirated and the puncture sealed over. The disfiguring scars remaining after incisions of abscesses are entirely avoided, and the final functional result is better. The cure is quick and sure, and in most cases the pain disappears immediately; the after-treatment is simple and painless, avoiding the dressings after incision, and the period of repair is less. In about 20 per cent. of cases a second treatment was necessary. This depends upon the virulence of the infection and the resistance of the individual more than the amount of pus aspirated. Fistula developed in one-third of the cases, but always healed quickly and spontaneously. It may be avoided by making the puncture outside the inflamed area. The treatment is contraindicated in large abscesses containing 100 c.c. or more of pus. They may heal rapidly, but the prognosis is always doubtful in deeply seated abscesses, and in old and feeble patients with large abscesses.—*The Medical Press*.

When there is persistent irritation of the throat, without local cause, examine the chest. This may be one of the earliest symptoms of mediastinal tumor or enlarged bronchial glands.—*American Journal of Surgery*.

The Treatment of Pyelitis

Hunner (*Surg., Gyn. and Obs.*, 15, 4), in a study of this condition, states that much pus is rarely found in the urine, and in the acute cases there is evidence that the kidney parenchyma is somewhat involved. Symptoms may be marked where only a bacteriuria remains and no pus or other evidence of inflammation. On the other hand, the infection may clear up, leaving a persistent inflammation, as indicated by pain and

presence of pus. Pyelitis cannot be considered cured until the urine is free from leucocytes and bacteria. Most cases of pyelitis clear up under medicinal and hygienic measures, the chief of which are rest in bed, warmth, light and nourishing diet, and free ingestion of fluids. He has noticed and taught for the past ten years that the hexamethylenamine preparations influence the urinary infection in only a small percentage of patients, and that it is useless to continue this drug if positive results are not obtained in ten days. The quantitative estimation of the urine shows that urotropin is broken up into formalin and excreted in the urine in sufficient quantity to be of antiseptic value in only about 20 per cent. of cases. Most cases resisting medicinal and hygienic treatment can be promptly cured by irrigating the kidney with an antiseptic solution, as aluminum acetate 2 per cent. or silver nitrate 1-1,000.—*The Medical Press*.

Transplantation of Bone Marrow

In a preliminary notice, O. M. Chiari records some experiments which he has carried out on the transplantation of bone marrow (*Munch. med Woch.*, November 12th, 1912). Having first attempted to implant the medulla of the sternum or of the femur into the space under the fascia of the rectus abdominalis or into a preperitoneal pocket, without success, he turned his attention to the spleen as a possible site for the transplantation. He removed a portion of the medulla of the femur of a rabbit and inserted it into the parenchyma of the spleen of the same animal through a narrow canal prepared by a blunt probe. The capsule was then sutured over the wound, and the abdomen closed. Some technical difficulties were met with on account of the hæmorrhage arising from the spleen and other causes. The whole animal, with the exception of the splenic region, was then exposed to X-rays with the object of producing a general damage to the bone marrow still *in situ*. Apart from an abortion, no harm was apparent from the rays, and after five months, during which time the rabbit remained well, it was killed. The examination showed that the piece of marrow was not only still alive, but proliferation of medullary cells (erythroblasts, myelocytes, etc.) was found. There was a small splinter of bone at the lower edge. It appears that the piece of marrow of the size of a millet seed had grown to that of a pea.—*British Medical Journal*.

Editorials.

TUBERCULOSIS FROM A PUBLIC STANDPOINT

One of the important features in connection with the "prevention of the disease" is the active and intelligent interest taken in matters pertaining to public health by the lay press, all kinds of publications, daily newspapers, weekly newspapers, weekly magazines, monthly magazines, appearing to have joined hands in the work of educating the public as to the preservation of health.

An interesting article on tuberculosis was published in *The Mail and Empire*, February 8th. It pointed out that it is not a difficult matter, with proper precautions, to prevent the spread of the disease. This fact has been recognized by the profession for some time, and it is now pretty generally understood that patients suffering from tuberculosis may be admitted into general hospitals, and if care is exercised there need be no serious danger to other patients or the nurses. It should be considered, however, that there is some danger, and "eternal vigilance" is always required.

The *Toronto Board of Health Bulletin* for January refers to an important fact in connection with infection. There is always a likelihood that the relatives of the patient have been infected to a greater or less extent during the early stages of the disease—that is, before the diagnosis has been made. The *Bulletin* thinks that nurses can do much to prevent the development of the disease in many of those infected. They can look after them and see that their

surroundings are improved, and endeavor to have them live in such a way that Nature will effect a cure. We are glad the public are also being educated as to this feature of the situation. The *Mail* tells us, in the article referred to, that when the tubercle bacilli are introduced into the system, Nature, in the inside, begins a war upon them, and this war never ceases while life lasts. The germs are always there, but the defenders are there, too, and unless their powers of resistance are lessened, they are able to keep the invaders in subjection. This is well and simply put, and the words used are very similar to those employed by Dr. John Caven in his lectures to students over twenty years ago.

MILITIA MEDICAL MEETINGS

The Second Division of the Branch Association of Militia Medical Officers has just completed an interesting course of lectures in the Lecture-Room of the Canadian Military Institute.

The first lecture was delivered January 20th on the "Medical Service at Magersfontein," by Lieut.-Col. Grant, discussed by Lieut.-Col. Fotheringham and Major Wallace Scott. The second lecture was delivered February 6th, on "The Infantry Division in Attack," by Lieut.-Col. Macdonell, discussed by Major Winters and Capt. Philip. The third lecture was delivered February 13th, on "Transport and Supply, and Their Relation to the Medical Service in the Field," by Major Shaw, discussed by Capt. World and Capt. Fox.

AN INTERESTING VERDICT

There has been considerable discussion about the responsibility of municipalities in connection with certain epidemics of preventable disease, particularly in connection with two very serious epidemics of typhoid at Sarnia and Ottawa. A man in Rochester, after recovering from an attack of typhoid fever, sued the city for damages, alleging that he contracted the disease from drinking impure water supplied by the city. He claimed that there was negligence on the part of the City, and was awarded \$475.00 damages by the court, in the latter part of January. The City of Rochester has appealed, and the verdict of the Higher Court is anxiously looked for by all parties concerned. There are at least ten more suits pending, and if the Higher Courts decide that the typhoid attacks were due to negligence on the part of the city, the damages are likely to run up into large figures. We in Canada will be quite as much interested as the inhabitants of the United States. The *Toronto Mail and Empire* speaks quite correctly as follows: "Typhoid fever is an absolutely preventable disease, and there is no case of typhoid that has not its origin in gross carelessness or ignorance on the part of someone."

DOMINION MEDICAL COUNCIL

We are not certain that the profession of Ontario are taking as much interest as they should in the Dominion medical matters. There seems to be the opinion that although the Dominion Medical Council has come into existence it has not accomplished any-

thing as yet. This is not correct, although definite results are not now apparent.

We have before announced that the first meeting was held in Ottawa, November 7th. After organization and the election of officers: Dr. Roddick, President; Dr. Thornton, Vice-President; and Dr. Powell, Registrar, several Committees were appointed, and did more or less work. We learn from Dr. Roddick and the *Dominion Association Journal* that much good was accomplished by discussions in and out of the Council meetings. The *Association Journal* tells us that "marked harmony prevailed in all discussions, and as new light was thrown upon the different matters, doctors were willing and prepared to modify the views which they had at first expressed, and even to amend the vote which they had at first recorded." It was finally decided not to adopt any of the reports submitted, but to refer them all to a Special Committee for revision. This Committee will report at a meeting in Ottawa in June, 1913.

INSTITUTE OF SANITARY INSTRUCTION

The Institute of Sanitary Instruction, Department of Health, Toronto, has made arrangements for a course of lectures, which began on January 8th, when Dr. Hastings, Toronto, delivered the opening address. It was decided after that a lecture would be given every Wednesday afternoon at 5 o'clock up to the end of April. According to the programme, the following were announced: "The Ontario Health Act," by Dr. McCullough, Chief Officer of Health for Ontario; "Conservation of Life," by Dr. Hodgetts,

Medical Adviser of the Commission of Conservation, Ottawa; "Vital Statistics," by R. A. Mills, M.A., Statistician, Department of Health, Toronto; "Tuberculosis, and How to Prevent It," by Dr. Graham, Pathological Department, University of Toronto; "Personal Hygiene," by Prof. Amyot, Professor of Hygiene, University of Toronto; "The Value of the Hospital Social Service Department to a Community," by Dr. Goldie, Associate in Medicine, University of Toronto; "The Communicable Diseases, and How They Are Transmitted," by Dr. Nasmith, Director, Municipal Laboratories, Toronto, and "Oral Hygiene," by Dr. Doherty.

WOMEN AND CIGARETTES

We are told that a member of the Legislature of the State of Massachusetts has introduced a bill making it a crime for women to smoke, and also a crime for any person to give or sell a woman a cigarette. This ardent reformer says: "Womanhood has been placed on a high pedestal in Massachusetts, and it is important to keep her there. There is a large and increasing sale of cigarettes, and women are smoking them more and more. We should pass legislation to save them."

We are told by *Saturday Night* that the Bishop of Ripon, England, recently spoke as follows at Harvard University: "If the men find it a pleasure, why should that pleasure be relegated to them, and not to the women. There are women in England who are well thought of who smoke." We do not propose to discuss the absurd contention that a habit which is con-

sidered harmless in a man should be considered criminal in a woman. Many of us would prefer to have our wives and daughters refrain from smoking, but we do not consider it necessary to go round and "swear at large" about the matter. The practical point, however, to consider is the possibility of enforcing such an Act in any country or State. There is every reason to think that if such an Act were passed in good old Massachusetts, cigarette smoking would increase among women at least fourfold within a year.

PHYLACOGENS

We do not propose at present to discuss the merits of Phylacogens. They have been used by many physicians in the United States for all sorts of rheumatism, erysipelas and pneumonia. We are told the results have been good in a large proportion of cases, such reports coming from reputable physicians in all parts of North America. The *Journal of the American Medical Association*, in its issue of February 1st, attacks rather bitterly Messrs. Parke, Davis and Company, who have placed the Phylacogens on the market for medical means. The *Journal* tells us that the Phylacogens are primarily toxic, sometimes sufficiently so to produce highly alarming reactions. To advise caution in such circumstances is quite correct. Exactly the same thing may be stated about antidiphtheritic serum, the administration of which as a prophylactic measure has sometimes caused rather serious results. To inject toxic material into the system of a person, sick or well, is never a trifling matter.

The American journal blames Messrs. Parke, Davis and Company for endeavoring to sell Phylacogens to physicians. The Company tells us that, at the instance of Dr. Schafer, their Company first began an investigation of Phylacogens in January, 1911, and it was not until March 1st, 1912—fourteen months later—that they sold so much as a single dose. During that period over 40,000 packages were prepared, and placed, free of charge, in the hands of their “clinical co-workers.” Since they began the marketing of the Phylacogens they have continued their experimental work in the laboratory, in the hospital, and at the ordinary bedside, at vast cost to themselves.

The writer of this article has used many of the Parke, Davis’ preparations with great satisfaction for more than thirty years. He has met many of the agents and some members of the firm. He has gone through their laboratories in Walkerville and Detroit; he admires their courtesy and he likes their methods. He fails to see, at the present time, any legitimate reason for the rather coarse attack which has been made upon them by the official organ of the American Medical Association.

NEWS ITEMS

The following letter has been received with reference to the Seventeenth International Congress of Medicine, which meets in London, in August of this year:

COMMITTEE OF REPRESENTATIVES OF THE MEDICAL LODGES IN
LONDON.

13, Welbeck Street, Cavendish Square, W.

A Lodge Meeting of Medical Freemasons who are members of the above Congress will be held on Monday, August 11th, 1913, in the Grand Temple at Freemasons' Hall, Great Queen Street, W.C.

The Most Worshipful the Pro Grand Master, the Right Hon. Lord Ampthill, G.C.S.I., G.C.I.E., will open the Lodge at 5 p.m., and close it at 6 p.m.

A Reception will be held at 4 p.m., in the Connaught Rooms, adjoining Freemasons' Hall.

It is hoped that all brethren who wish to be present will communicate with the Grand Secretary of their own jurisdiction as soon as possible in order that suitable arrangements may be made.

R. J. PROBYN-WILLIAMS, M.D., P.G.D.,

Hon. Secretary.

A Society for the Advancement of Clinical Study has recently been organized in New York City, the purpose of which is to maintain a bureau of information, which will furnish to resident and visiting physicians definite information regarding the clinical facilities of the hospitals and laboratories of the greater city. For this purpose a bulletin board has been installed at the Academy of Medicine, 19 West 43rd Street, in charge of a special clerk, who will be on duty between the hours of nine and six, to answer all telephone inquiries (Telephone 974 Bryant.) The bulletin board will consist of two sections, on one of which will be posted, month by month, the regular clinics—medical and surgical—and also laboratory demonstrations, all of which are held at stated hours. The second section will include full announcements of daily operations and demon-

strations of cases, both medical and surgical, which, as far as possible, will be announced on the day preceding their performance. It is believed that these facilities will afford physicians who are interested in observing particular operations, and operators or clinicians, an opportunity to obtain the desired end with the least trouble. It is hoped that by this means the large and unexcelled clinical facilities of New York City will be made more accessible to those who may desire to make use of them.

Personals

Dr. J. C. Connell has resigned his position as Dean of the Medical Faculty of Queen's University, Kingston.

Dr. Charles O'Reilly, of Toronto, sailed from Portland for England on the Teutonic March 1.

Latest reports respecting Dr. R. A. Stevenson indicate that he is rapidly gaining strength, and it is expected that he will return to Toronto early in May.

Dr. J. W. S. McCullough, Chief Officer of Health for Ontario, and Dr. George Porter, Secretary of the Ontario Association for the Prevention of Tuberculosis, went to New York February 27, to interview Dr. Franz F. Friedman the German physician, who claims to have discovered a cure for tuberculosis. They were courteously received, and saw some of the "test" cases. Dr. Friedman promised to attend the tuberculosis meeting at Ottawa, March 12 and 13, and will treat a number of patients there.

Obituary

LORD ILKESTON, M.D., LL.D.

Lord Ilkeston, better known to the profession of Canada as Sir Michael Foster, died of malignant disease of the bowel, January 31, aged 73.

GEORGE ALEXANDER GIBSON, M.D., Sc.D., LL.D.

Many Canadians have very pleasant recollections of Dr. Gibson, of Edinburgh, who took a very prominent part at the meeting of the British Medical Association, in Toronto, 1906. He suffered from valvular disease of the heart for some years, but engaged in active work until last summer, when he had a partial "break-down." After a trip to Norway he was a little better for a time, but he commenced to lose ground in December, and died January 14, aged 59.

W. V. COOK, M.D.

Dr. W. V. Cook was for some years a druggist in Toronto. After leaving this city, fifteen years ago, he graduated in medicine, and practised in Pasadena, Cal., up to the time of his last illness. He died in that city February 16.

EDWARD PARDEE BUCKE, M.D.

Dr. E. P. Bucke, of London, Ont., a son of the late R. M. Bucke, Superintendent of the London Hospital for the Insane, and brother of Dr. Robert W. Bucke, of Port Arthur, died after nine days' illness from pneumonia, February 15. He graduated from "Western" University fifteen years ago.

EDWARD E. KITCHEN, M.B.

We have to announce with deep regret the death of Dr. Kitchen, of St. George, which occurred after a long illness, February 19. He graduated M.B. from the University of Toronto in 1865, and went to St. George where he practised up to the time of his last illness. He possessed much ability, and was for many years recognized as one of the leading physicians of Western Ontario. At one time he took an active part in political affairs. He was very much interested in the organization of the Ontario Medical Association, and was for a long time one of its most active members. He was appointed a member of the Provincial Board of Health in October, 1891, and after acting in that capacity for twelve years was appointed chairman in 1903, which position he held for three years.

Book Reviews.

Systema of Treatment, by many writers. Edited by ARTHUR LATHAM, M.A., M.D., Oxon.; F.R.C.P. (London); Physician and Lecturer on Medicine, St. George's Hospital, and T. CRISP, English Surgeon and Lecturer on Surgery, St. George's Hospital. Toronto: The Macmillan Company of Canada.

In a former issue, we referred with pleasure to the admirable qualities of this work as a whole. In another issue, we had something to say about Volumes 1 and 2. We desire now to add a few words respecting Volumes 3 and 4.

The title of Vol. 3 is "Special Subjects." First, we find a description of special forms of treatment, such as hydrology, ionic medication, massage, etc. Next, we get general principles and special applications of serum therapy and vaccine therapy. Among other diseases treated are various kinds of infections, tropical diseases, many forms of "special" diseases, including diseases of the skin, and dental surgery.

The title of Vol. 4 is "Obstetrics and Gynæcology." So far as the therapeutic aspects of these two subjects are concerned, this volume is better than any text-book we know. Among the many authors we may mention the following well-known men, whose reputations will furnish a good guarantee as to the excellence of the volume: Dakin, of St. George's Hospital, London; Purslow, of Birmingham Maternity Hospital; Stevens, of Queen Charlotte's Hospital, London; Tweedy, late master, Rotunda Hospital, Dublin; Munro Kerr, Glasgow Maternity Hospital; Victor Bonney, Chelsea Hospital for Women, London; Fothergill, Victoria University, Manchester; Bland-Sutton, Middlesex Hospital, London; Ballantyne, Edinburgh School of Medicine for Women, and Blair Bell, Royal Infirmary, Liverpool.

On Conjugal Happiness. Experiences, reflections and advice of a medical man. By HOPAT DR. L. LOEWENFELD, Munich. Translated by Ronald E. S. Krohn, M.D. (Lond.). London: John Bale, Sons & Danielsson, Ltd., Oxford House. 1912.

Matrimony is not usually a thing to be calmly and meditatively considered. From the dawn of civilization, man has

been impelled by his heart, rather than his head. Dr. Loewenfeld thinks the world has had enough of this, and so he has prepared his philosophical treatise to teach us better. The book is not intended for those of immature minds, of course, but there is nothing prurient or sensational in it. The time is fully ripe for such a work, which we can heartily recommend.

Progressive Medicine. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia; assisted by LEIGHTON F. APPLEMAN, M.D., Instructor in Therapeutics, Jefferson Medical College. Dec. 1, 1912. Lea & Febiger.

The contents of this number are up to the usual standard of excellence, especially the articles on the Kidney, by Bradford, and on the Digestive Tract, by Goodman. Always full of food for thought, up-to-date in every respect, concise, clear and well written, this instructive quarterly comes to our desk with a warm welcome.

Building a Profitable Practice. Being a Text-book on Medical Economics. By THOMAS F. REILLY, M.S., M.D., Professor of Applied Therapeutics, Medical Department, Fordham University, New York City. Philadelphia and London: J. B. Lippincott Company, Washington Square Press, Philadelphia.

We have often thought that the graduating student should receive a few lectures at least on the economic side of his profession. Some students there are who are fortunate enough to have the personal friendship of men successful in the practice of medicine, and from these they can obtain many points which will prove of inestimable value when they come to start for themselves. Others have to find out by experience, and sometimes only after swallowing many bitter pills, just what they should have done in many situations that arise. For the help of these latter, Dr. Reilly has written a book which should be read and the contents well noted by every graduating student, and even men who have been out in practice will find many helpful suggestions within its covers. Although written largely from the standpoint of a New York physician, the remarks will apply equally well to the profession in Canada.

We consider this a most useful and timely volume on a subject which, as a rule, is quite neglected, and is yet of vital interest to every practitioner of medicine.

Text-book of General and Special Pathology, for Students and Practitioners. By HENRY T. BROOKS, M.D., formerly Professor of Pathology at the New York Post-Graduate Medical School and Hospital; Consulting Pathologist to Beth-Israel, New York City, and New Rochelle, N.Y., Hospitals; Bacteriologist to St. Mark's Hospital, N.Y., etc., etc. Illustrated with 525 half-tone and other text engravings (110 in colors), also 15 full-page plates in colors, containing 40 figures. Philadelphia: F. A. Davis Company, Publishers. 1912.

A new book on pathology is always of interest. Originally, this work was intended to be a translation, with additions, of "Grundriss der Pathologischen Anatomie," published in 1904 by Professor Robert Langerhans, of Berlin. Although this intention was not carried out, still, in general, one can trace the German thought throughout the present text. The book does not claim in any way to bring forth any new theories to explain some of our pathological problems. It is, however, well and lucidly written, is well illustrated with half-tone and colored engravings, and should serve admirably the purpose of a text-book in this subject.

Medical Men and the Law. A modern treatise on the legal rights, duties and liabilities of physicians and surgeons. By HUGH EMMETT CULBERTSON, of the Ohio and New York Bars; Contributing Editor to the Lansing (Ohio) "Encyclopædic Digest," "Notes on the American Decisions and Reports," and many other legal publications. Lea & Febiger, Philadelphia and New York. 1913.

This is not a work on jurisprudence, as one might think from a casual glance, but a book of vital interest to every medical man, because it lays down the law of the profession. Some of the interesting headings are these: "Who Are Liable for Compensation," "Liability of Physician for Neglect as to Appliances, or Failure to Give Proper Directions," "Contributory Negligence of Patient," "Expert Witness," and "Privileged Communications." Although the law is that of the United

States, yet the great facts and the important decisions will be just the same in this country. Everything is put clearly, and the whole treatise reads like a story.

The Prescriber. A Monthly Journal dealing with Therapeutics and Treatment. Edited by THOS. STEPHENSON, Ph.C., F.R.S.E., F.C.S., Examiner to the Pharmaceutical Society of Great Britain. Volume VI., January to December, 1912. Edinburgh: *The Prescriber* Offices, 137 George Street.

The bound volume of *The Prescriber* is a most useful addition to one's works on treatment. Containing, as it does, a complete summary of the year's progress in Therapeutics and allied subjects, it can be recommended to all practitioners. A most useful feature is the index to Current Literature which appears quarterly, and affords a ready reference guide to therapeutic progress and the literature on the newer remedies.

Health and Longevity Through Rational Diet. Practical Hints in Regard to Food and the Usefulness or Harmful Effects of the Various Articles of Diet. By DR. ARNOLD LORAND, Carlsbad. Philadelphia: F. A. Davis Company, publishers, Philadelphia, Pa. 1912.

All those who read with interest Dr. Lorand's book "Old Age Deferred" will be glad to see that he has given us another product of his pen. As the leading physician of Carlsbad no one has a better opportunity to study the evil effects produced by an improper diet and the results of correct feeding. Evidently Dr. Lorand has made full use of these observations as well as those he has made in his travels in other countries.

The various food stuffs are considered in detail, and their composition, methods of preparation and so forth thoroughly covered, while useful hints are thrown out as to how the maximum benefit is to be obtained from a certain food. Diets suitable for workers in the different walks of life are given.

The reader will find the book not only of interest and profit to himself, but it is one that can safely be placed in the hands of any intelligent layman.

The New Physiology in Surgical and General Practice. By A. RENDLE SHORT, M.D., B.S., F.R.C.S. Hon. Surgical Registrar Bristol Royal Infirmary, Demonstrator of Physiology, University of Bristol. Toronto: The Macmillan Company, Limited. It contains 201 pages, price \$1.25.

It is a good thing in these days of rush and hurry that someone is kind enough to review a work on certain special lines and present them to us in a concise form.

This is what Dr. Short has done in this volume. He has presented the advances in physiology, and they have been numerous and important, in a clear brief and concise form. The bearing that physiology has on the work of the surgeon is always important and frequently not well recognized. Mistaken ideas based on erroneous conclusions have for long and enough prevailed.

Excellent work has been carried on experimentally during the past ten years and has practically revolutionized our ideas on many points of physiology, particularly those on digestion and internal secretions. This is very clearly pointed out in this volume, and any practitioners doing surgical work should not be without it on his desk.

A New Work on the History of Medicine.—W. B. Saunders Company, publishers, of Philadelphia and London, have in active preparation a work on the History of Medicine, by Dr. Fielding H. Garrison, Principal Assistant Librarian, Surgeon-General's Office, and Editor of the "Index Medicus." Dr. Garrison's twenty years' experience in medical bibliography, and the unusual advantages derived from his close touch with the rich stores of the Surgeon-General's Office, fit him most admirably for such a work as this.

His book will present the history of medicine from the earliest ancient and primitive times; on through Egyptian Medicine, Sumerian and Oriental Medicine, Greek Medicine, the Byzantine Period, the Mohammedan and Jewish Periods, the Mediæval Period, the Period of the Renaissance, the Revival of Learning and the Reformation; the Seventeenth Century (the Age of Individual Scientific Endeavor), the Eighteenth Century (the Age of Theories and Systems), the Nineteenth Century (the beginning of Organized Advancement of Science), the Twentieth Century (the beginning of Organized Preventive Medicine). There will also be Appendices covering Medical Chronology, Histories of Important Diseases, Histories of Drugs and

Therapeutic Procedures, Histories of Important Surgical Operations, and Bibliographic Notes for Collateral Reading.

Dr. Garrison's work will undoubtedly be a valuable book to every medical man. In this one volume he will get a complete history of medicine from its earliest times, presented in a concise form.

The illustrations are intended to stimulate the reader's interest in the picturesque aspects of medicine, and in the personalities of its great leaders. The biographies will be confined to the most important facts and to interesting personal traits. The original bibliographic references to the important discoveries, operations and experiments will be given. Each period is to be followed by a brief survey of its social and cultural phases. Altogether, it promises to be a most important addition to medical literature. We await its publication with much interest.

Dose of Digitalin

Henry Beates, Jr., of Philadelphia, in a recent communication writes: "In the matter of Digitalin German Merck, which is, at last, beginning to have its value recognized, and to be used by the profession generally, I again desire to call attention to the necessity of directing, for its subcutaneous use, *dilution*. In emergency cases where from one-quarter to even three grains are occasionally indicated, and to avoid abscesses and cellulitis, it is necessary to dissolve the remedy in about twenty-five c.c. of normal salt solution. One-quarter to one-half grain doses do not irritate if diluted with 10 c.c. When the profession realizes that this valuable remedy frequently prevents collapse and death in diseases like pneumonia and typhoid fever, and from profound surgical shock, its employment under these conditions will become very much more general, and, doubtless, lives would be frequently saved which would otherwise be lost."

Selections.

Treatment of Influenza

Frank S. Meara, in the *Interstate Medical Journal* for December, 1911, states that in the typical attack of influenza, usually abrupt, the patient should be put to bed, with a hot water bag at his feet, given a hot drink of tea, water or lemonade, with or without whiskey, and well covered with blankets until the febrile reaction begins. A cool or tepid sponge bath, containing a little alcohol, and cold cloths or an ice bag on the forehead, may then be employed to relieve the headache and general pains. A saline cathartic should be given.

On the first day, no food should be offered; but thereafter fluids in the shape of milk or gruels may be given and later soups, eggs and cereals.

Medicinally, Meara employs the following combination:

R Acetanilidi,grs. xxiiss;
Sodii bicarbonatis,grs. xv;
Caffeinæ citratæ,grs. viiiss.

M. et divide in capsulas No. xv.

Although the dose of acetanilide is thus only 1.5 grain, the results obtained have been excellent, and Meara has felt no inclination to experiment with the less toxic antipyrine and acetphenetidine. Where the attack is severe, the capsule is given every hour for four doses, then every two hours, on the first day. If, as is usual, this brings relief from discomfort, and lowers the temperature, the capsules may be given the next day at three hour intervals and the next at four hour intervals. If the attack is prolonged, the drug should not be continued, as its benefit is confined to the early, sthenic stage.

Burney Yeo is convinced of the utility of quinine, after two or three days' preliminary treatment with salicin. He gives the former in doses of one to three grains every three or four hours, either in lemon juice, or better, in a solution of citric acid.

For tracheitis, Meara recommends a mixture in equal parts of oil of turpentine, spirit of camphor, and olive oil; flannel is saturated with it, laid upon the chest, pinned into the night shirt, and left on overnight. The patient inhales the fumes, and relief of soreness and cough is afforded. Inhalations of compound tincture of benzoin, a teaspoonful or two in a pitcherful of hot water, or a teaspoonful to a pint in an inhaler, or a few drops of a

saturated alcoholic solution of menthol in water, also prove grateful. If the cough is more harassing, codeine, grain $\frac{1}{8}$ to $\frac{1}{4}$ every two, three, or four hours, or heroine, grain $\frac{1}{12}$ to $\frac{1}{10}$, may be used.

Where, in conjunction with rhinitis, there is much frontal headache, sinus involvement is usually present. One should endeavor to shrink the mucous membranes enough to open the ducts and passages to the sinuses, thereby allowing drainage. This may be done by spraying with one to 10,000 epinephrine solution and then with a preparation containing 10 to 30 grains of menthol, 20 grains of camphor, 20 minims of eucalyptol, and 3 minims of oil of rose, in 2 ounces of an oily excipient. If the antrum is involved, the head should be turned to the sound side, hanging slightly over the edge of a pillow, to facilitate the exit of fluids. If the nasal discharge is marked, extract of belladonna, $\frac{1}{8}$ grain, or atropine, $\frac{1}{120}$ grain, should be taken every two hours until it stops, and thereafter every four to six hours; due watch should be kept for signs of intolerance.

Convalescence should not be hurried. The diet should be liberal, light rubs or massage given, and plenty of fresh air secured. If the patient is not content after honest adoption of these measures, strychnine in doses of $\frac{1}{40}$ to $\frac{1}{30}$ grain, three or four times a day, may be tried.—*New York Medical Journal*.

Aluminum Acetate

Stensbury asserts that a solution of aluminum acetate is more efficacious than the commoner applications, iodine, ichthyol, lead and opium, etc., in the treatment of local congestions, such as boils, carbuncles, and especially in facial erysipelas. He has used it also with marked success in severe cellulitis.

The formula in the National Standard Dispensatory for "Liquor Alumi Acetatis" is:

Aluminum sulphate, U.S.P.	300 grams
Acetic acid, U.S.P.	300 grams
Calcium carbonate, C.P.	130 grams
Water distilled	1000 c.c.

Dissolve the calcium carbonate in the acetic acid; mix with 200 c.c. of water, and the aluminum sulphate in 800 c.c. Mix the two solutions and allow the mixture to stand for twenty-four hours, agitating occasionally. Then pour off the clear solution and filter. The solution contains 7.5 to 8 per cent. of basic aluminum acetate. It is practically identical with the liquor alumi aceticæ of the German Pharmacopœia.

When prepared, the solution should be perfectly clear. It is to be diluted with distilled water, 1 to 7 or 10. Gauze is saturated in several thicknesses, applied directly to the parts, and covered with rubber tissue or oiled silk, and a loose roller bandage is then applied. When employed in this way the dressings remain moist, and it is not necessary to change them more than once or twice in twenty-four hours. When the dressings are removed, the skin will be found whitish and much wrinkled unless the skin is very much congested, as in erysipelas. Stansbury has kept up the application for days, and has never noticed any bad effects whatever.

Boils and carbuncles treated in this way are usually aborted; or if pus has already formed, the area of redness and induration is lessened and pain much reduced.

In facial erysipelas the results are especially good. Stansbury asserts he has never seen it fail to check the spreading of this obstinate infection.

In threatened alveolar abscesses from bad teeth it is, in his opinion, without a rival.

The first case treated by him with this agent was a woman, who said she was going to have another "gathered jaw," as she had four previous times from the same tooth. She already had marked swelling, great pain and sensitiveness, and rise in temperature. A pledget of absorbent cotton the size of a little finger was saturated with a 10 per cent. solution of aluminum acetate and placed within the mouth between the alveolar process immediately over the swelling and the cheek, while another piece of gauze saturate with the same solution was placed on the outside of the jaw, covered with rubber tissue, and bandaged. The inside piece was renewed once in two hours; the outside piece twice a day. There was no further extension of the trouble, and at the end of twenty-four hours the improvement was very marked.

He has treated a few other cases of a similar nature with results equally as good; in fact has had none to suppurate under this treatment.

A man aged over seventy years had his thumb infected by being cut with a piece of broken glass. He was near a hospital, where he had it dressed. From seven to ten days after the accident he had a severe chill, and his physician called Stansbury in consultation. The doctor had opened a small abscess near the first site of the injury earlier in the day, but when Stansbury saw the patient, his temperature was 104° F., the forearm was swollen, a red streak ran from hand to axilla, and there were

Real and Apparent Nutritive Values

While laboratory problems are readily worked out to logical, and, what appear to be, convincing conclusions; clinical experience frequently modifies some of these conclusions, or seems to disprove them altogether.

The reason is, perhaps, that full data are the essentials upon which to base correct findings, and such are not always, actually, though apparently, available—in the laboratory.

For example: To estimate the “calorie” value of Whole Wheat and Barley, would seem (in the laboratory) to be a correct computation of the dietetic value of the well-known food (made of these two cereals)—

Grape-Nuts

But, professional accuracy of observation from a clinical standpoint, and confirmed, in an empirical way by many of the more intelligent laity, has shown in many individual cases during a decade or more, that Grape-Nuts, for some reason possibly not readily demonstrable by the mathematics of chemistry; supplies in a prompt and practical way, far more real nutritive value than the laboratory chart gives to mere Wheat and Barley.

The above is well worth looking into by the physician who is broad and scientific enough to go after the best results for his patients.

Grape-Nuts has a greater food-value than mere Wheat and Barley—even outside the acceded advantages of proper cooking. It is a concentrated food, and contains all the proximate principles necessary in the highest form of food—protein, carbohydrates, salts, etc., and its solubility makes it ready for immediate digestion.

We shall be pleased to have expressions of experience from the profession.

The “Clinical Record,” for Physicians’ bedside use, together with samples of **Instant Postum**, **Grape Nuts** and **Post Toasties** for personal and clinical examination, will be sent on request to any physician who has not yet received them.

enlarged glands above the elbow and in the axilla. The patient was a thoroughly sick man. The entire hand and arm to axilla were enveloped in gauze saturated with aluminum acetate solution, 1 to 8, covered with rubber tissue, and bandaged. Bier's hyperæmia was induced by placing a rubber band in the axilla and fastening it over the shoulder. The patient showed marked improvement the first twenty-four hours, and in three days was considered out of danger. He made an uneventful recovery.

In rhus poisoning, aluminum acetate is the best instrument at one's command. When the joints in inflammatory rheumatism are acutely swollen and very painful, he has seen it used with much benefit.

Koll claims to have absolutely cured by the local use of liquor aluminum acetate 42 patients suffering from colon infections of the urinary tract. He emphasizes that the preparation of the liquor is of great importance. The National Formulary should be followed very closely. After the full-strength solution is prepared, he advises diluting each time the liquor is employed, because, unless a very carefully distilled water is used, the carbonate of the water will throw down a heavy gelatinous precipitate of aluminum hydroxide, which will leave free acetic acid. A second suggestion he makes is to start with 1 per cent. in severely inflamed bladders, and in each case control the irritation with opium suppositories.—Landis in *Progressive Medicine*.

Cure of Inoperable Cancer of the Cervix Uteri by Radium

At a meeting of the Société Médicale des Hôpitaux of Paris on Oct. 11th MM. H. Chéron and H. Rubens-Duval reported a case of inoperable cancer of the cervix uteri cured by the more penetrating rays of radium. The case is important because the proof that the disease was cured was complete. Some time ago they reported a number of inoperable cases of cancer of the cervix uteri in which under this treatment cancerous masses regressed and ulcers healed so that the uterus could be removed, and others in which the local disease completely disappeared, but in none was it proved that the patient was cured. In some of the cases there were distant growths which were not influenced. In the present case a woman, aged 49 years, who had two children, was seen on Nov. 26th, 1910. Since September, 1908, she had wasted considerably and suffered from pains in the loins, but not until September, 1910, did she complain of metrorrhagia, which alternated with fetid leucorrhœa. She saw at the Saint-Antoine Hospital

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IT TAKES the road immediately (no cranking), and is always ready for an emergency call.
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It is interesting to note that the makers of this car, the Waverley Company of Indianapolis, have had sixteen seasons of electric carriage building, and the 1912 car is the product of the accumulated experience of these years.

See the Waverley at the Garage, Albert Street, or write for particulars.

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Dr. Lejars, who diagnosed inoperable cancer of the uterus, and sent her to MM. Chéron and Rubens-Duval for radiotherapy. On examination there was a large vegetating tumor of the right half of the cervix, which was friable and bled easily on being touched. The base of the right lateral ligament was infiltrated. A fragment of the tumor was removed and on microscopic examination showed the characters of squamous epithelioma, 20 centigrammes of radium, distributed in several tubes of silver or platinum half a millimetre thick, were implanted in the tumor and left there for 48 hours. On Jan. 10th, 1911, the general condition was improved and the discharge was arrested. The growth had considerably diminished and become firmer. On being touched it bled little. The uterus was more mobile, although there still existed some infiltration of the right lateral ligament. On Jan. 23rd 7 centigrammes of radium were introduced into the tumor as in the preceding manner and left in position for 24 hours. On Feb. 21st the general condition was excellent, the appetite was good, and the patient slept well. There was no discharge, and digital examination did not cause the slightest hæmorrhage. The cervix was small and sclerous and the uterus was mobile. In such cases MM. Chéron and Rubens-Duval always recommend operation, since it is unsafe to trust to apparent cure, as a uterus apparently perfectly cicatrised may contain a focus of cancer that may lead to recurrence. As the patient was now operable she was sent back to Dr. Lejars, who examined her on March 21st and found a mass of the size of a hen's egg in the right lateral ligament. This finding MM. Chéron and Rubens-Duval were surprised to confirm, for on Feb. 21st they had found the ligament unaffected. They did not doubt that the mass was cancerous, and thinking that the treatment had failed they discontinued it. In November they saw the patient again. She complained of lumbar pains radiating into the limbs. On examination they were again surprised, for there was no mass in the lateral ligament. The cervix had further shrunk and the uterus was perfectly mobile. Except for the pains the patient appeared to be in excellent health. It was thought that the pains were due to compression of the roots of the sciatic nerve by cancerous glands, but no signs of these could be found. In January, 1912, the uterus was in the same state as before, but there were nervous symptoms—difficulty in walking and in speech and mental impairment. The patient was examined by Dr. Siredey, who found Babinski's and Romberg's signs, and diagnosed softening of the nervous centres. On April 3rd she had a "stroke" and left hemiplegia followed. The respira-



Ergot and the Price in the Market

In 1910 Ergot was a short crop and prices were increased.

In 1911 the excessive drought reduced the Ergot crop to one-half, and prices soared again.

The result of last year's excessive rains, which washed a large part of the Ergot crop away, is that the price of the crude drug has soared to a point beyond all expectations. Yet some manufacturers are offering Fluid Extract of Ergot at a price which, under present market conditions, is absolutely impossible if sound, ripe Ergot is used.

During these three years of failure in crops and increasing prices, we have been able to secure a supply of prime ergot, so that the standard of

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is to-day as high as it was when this reliable product was first made known to the profession.

National Fluid Extract of Ergot is the best form in which Ergot can be administered. It responds better to the anxious expectations of the physician than any other preparation of Ergot.

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tion became difficult and she died on April 17th. The necropsy showed considerable hæmorrhage beneath the spinal meninges and numerous foci of softening in the spinal cord, medulla, pons, and corpora striata. The basilar artery and circle of Willis were atheromatous. The heart was hypertrophied and the kidneys were slightly sclerotic. The uterus and its annexa were sound to the naked eyes. The base of the right broad ligament was a little thickened but not hard. The vaginal portion of the cervix uteri had disappeared and the vagina terminated like a funnel in the canal of the cervix. Careful palpation of the iliac vessels did not reveal any enlarged glands. Numerous sections of the cervix and right broad ligament were examined microscopically without revealing a single cancer cell. The thickening of the broad ligament was due to fibro-lipomatous tissue.—*The Lancet*.

Nursing by Puerperal Women

K. Franz (*Berl. klin. woch.*, July 10, 1911) believes that there is no such thing as a physiological inability of a healthy mother to nurse her child. He thinks that it lies with the general practitioner to bring about such a state of mind in his patients that they shall wish to nurse their children. Formerly he believed that some women could not nurse their children, but he has changed his position with experience, and by judicious advice he has been able to induce all the women in his hospital service to perform this duty. His method of treatment of all lying-in women is given. He believes that the child should be placed at the breast within twenty hours after delivery, since its attempts at nursing hasten the appearance of milk in the breasts. The child is placed at one breast at a time for twenty minutes. The child is nursed five times daily. From 10 p.m. to 6 a.m. the mother has rest. No drawing out or manipulation of the nipples during pregnancy is necessary, and no applications are made, nor is the child's mouth washed out before nursing. A clean garment covering the nipple is sufficient protection. At each nursing the breast should be emptied; milk left in the breast will harden and give trouble. The women get up on the fifth day and this helps appetite and general condition, which increases the supply of milk. We cannot expect good milk if we give the mother a low diet. The author allows his patients to eat anything they desire from the first day after labor. Puerperal infection, cancer, and pulmonary tuberculosis contraindicate suckling.—*N. Y. Jour. of Obst.*

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whether deep or superficial indicates circulatory disturbance. The relief of tension, the stimulation of arterial and capillary circulation is the definite procedure in treatment and ANTIPHLOGISTINE applied thick and hot should be the first thought as a therapeutic agent.

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The Gorrell Open Inhaler for Ether, Chloroform or Ethyl Chloride

This inhaler was referred to by Dr. Gorrell in his paper on Anæsthesia published in our February number. It is designed to be used with the drop method of anæsthesia for either ether, chloroform or ethyl chloride. It is specially valuable in following anæsthesia induced by nitrous oxide-ether sequence.



The instrument is divided into a wire and cloth body and a rubber face-piece.

The body consists of a wire frame covered with a flannel material to confine the vapor, and is divided into two chambers, one above and one below a gauze mesh. The anæsthetic is dropped into the upper chamber through one of the openings in the top or side. The anæsthetic

falls on a gauze mesh composed of six or seven layers of ordinary gauze spread over a wire frame. As the vapor is over twice as heavy as air, it settles in the lower chamber, separated from the face-piece by a valve. The valves in the face-piece are so arranged that the respired air comes from the anæsthetic-laden chamber, while the expired air is sent direct to the atmosphere without passing through the gauze mesh.

The inhaler is made by Messrs. G. Barth & Co., 54 Poland Street, London, W., England.

EDINBURGH POST-GRADUATE COURSES IN MEDICINE

in connection with the University and the Royal Colleges.

The following Courses will be held during July, August, and September, 1913 :—

A GENERAL COURSE (divisible if desired into two independent fortnights), which will extend from 1st to 27th SEPTEMBER. This will include Medical and Surgical Clinics, Medical Applied Anatomy, Clinical Courses in Neurology, Diseases of the Skin, Eye, Fevers, Gynaecology, Diseases of Children, and Practical Courses on the Blood, Bacteriology, X-Rays, &c. In addition, a series of Special Lectures will be delivered on subjects of current interest by prominent members of the school.

A SURGICAL COURSE (attendance limited to 25) from 1st to 27th SEPTEMBER, which will include Surgical Applied Anatomy, Surgical Pathology, Operative Surgery, Surgical Clinics, &c.

A COURSE ON INTERNAL MEDICINE (attendance limited to 25), from 4th to 29th AUGUST. This will include series of Clinics upon Diseases of the various systems, with practical Classes upon Applied Anatomy, Haematology, Bacteriology, and the Examination of the Heart, Urine and Digestive Products, Nervous System, and X-Ray Diagnosis.

A COURSE ON DISEASES AND DEFECTS OF CHILDREN (attendance limited to 25), from 14th to 26th JULY. This Course, which will be suited for Medical Inspectors of School Children, will include Medical and Surgical Clinics, and Special Clinics on Diseases of the Skin, Eye, Ear, Nose and Throat, Teeth, Infectious Diseases and Mental Defects.

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A TRUE STORY

Van Bliggins' Private Hospital
 Was built for wealthy folk,
 Who counted elevated fees
 A bagatelle, a joke.
 The fittings were miraculous,
 The beds were solid brass,
 And diamond rings were worn by each
 Delightful Nursing Lass.

Van Bliggins had a fancy crest,
 Correct in Heraldry.
 (He was the outmost twig upon
 A famous family tree.)
 And so he ordered chinaware
 Exceptionally fine,
 And stipulated that each piece
 Should bear the neat design.

In time the dishes were received—
 An admirable lot;
 The crest in crimson, blue and gold,
 Was done without a blot.
 The helmet on the top was fine;
 So, also, was the wreath;
 And wholly admirable was
 The motto underneath.

But ere the dishes had been used,
 The Junior Surgeon said:
 "I would not take that crest of yours
 To any Patient's bed."
 "And why?" Van Bliggins answered him,
 "It looks sublime to me;
 My Mother's Uncle had it made
 In 1863."

"Just read the Motto, gentle sir,"
 The Junior Surgeon said.
 — Van Bliggins tore great gobs of hair
 From off his knobby head.
 For this is how the Latin scroll
 Appeared before his eye:
 "'Paratus mori,' Jiminez!
 That means 'Prepared to die.'"

(—*The Toronto News.*)

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Treatment of Diphtheria Carriers by Over-riding with Staphylococcus Aureus

Lorenz and Ravenel give their results in the treatment of seventeen cases of diphtheria by the staphylococcus spray. Six patients were subjects of active diphtheria, three were carriers pure and simple, never having shown local or constitutional symptoms of the disease. Almost invariably, bacteriological culture of the throat secretions was negative after six or eight applications of the spray, using a combined nasal and throat spray at four-hour intervals on two succeeding days, the first swab for examination being made on the third day. The preparation used was a fresh suspension of staphylococcus pyogenes aureus in normal saline solution, or a bouillon culture twelve hours old, the spray being kept at a temperature of 96 degrees F. Sufficient is used to make the pharynx dripping wet, and the nasal cavities are sprayed until the liquid runs down the back of the throat. The writer concludes from his experiments that pure cultures of the staphylococcus will cause a disappearance of diphtheria bacilli when sprayed into the throat and nasal cavity. He finds the treatment most effective in those who are carriers pure and simple.—*The Western Medical Review*.

The Danger of Proprietary Names

A fatal case of lysol poisoning, due to a druggist's error in dispensing the proprietary cresol solution, lysol, in place of the castor oil nostrum, laxol, recently occurred. In commenting on this case the *American Druggist* (October, 1912) says:

" A physician ordered two ounces of laxol and the clerk delivered two ounces of lysol instead. This error was furthermore made possible by the very unscientific and unsatisfactory method in which the directions were written, for the doctor ordered that the patient should take the medicine 'as directed.' While there seems to be no excuse to be offered for the substitution of the poisonous lysol, unless indeed the writing was faulty, for the harmless laxol, such a substitution would probably never have occurred had the physician written the directions instead of giving them verbally. This practice of giving verbal directions and labeling the prescriptions 'as directed' is a most objectionable one from every point of view, save possibly the convenience of the physician. Where verbal directions are given, misunderstandings may easily arise, and the

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patient or the nurse may even forget the directions between the time they are received from the physician and the time the drug is received from the pharmacist. We believe that physicians should in every case write out the directions for use in full on their prescriptions. In this particular instance, such a practice would undoubtedly have saved a life."

The *Western Pennsylvania Retail Druggist*, in reporting the case, states that "a paper signed by a physician was handed in, on which was written 'Laxol 2 ounces.' " While in this case the physician evidently did not consider it necessary to write a formal prescription for this castor oil mixture, we are in entire accord with the suggestion that a physician should in every case write out the directions for the administration of a medicine, for there is danger that verbal directions will be misunderstood or forgotten. Such directions often are also a valuable guide to the pharmacist who fills the prescription, in that it enables him to correct any accidental miscalculation of dosage. It is particularly important that a preparation intended for external use should bear a statement declaring this fact.

While the druggist's error is inexcusable, of course it seems that the chief blame attaches to the dangerous similarity of the names laxol and lysol. It is a forcible illustration of the danger of the short, catchy titles that are the rule with proprietary medicines. The error could not have occurred had the physician prescribed the official cresol solution, liquor cresolis compositus.—*The Pennsylvania Medical Journal*, Dec., 1912.

Syphilis in Diseases of the Eye

(DR. BRYANT in the *Western Medical Review*.)

No organ of the human body is so susceptible to and so prolific of syphilitic trouble as the eye and its appendages.

Eyelids.—The initial sore is sometimes found here, also syphilitic skin affections. The tarsus is occasionally affected, also the conjunctivæ.

Cornea.—Usually the manifestation here is interstitial keratitis. The inherited form may occur anywhere from 5 to 40 years of age; the acquired form from a few weeks to 20 or 30 years after infection.

Sclera.—Rarely involved; occasionally a gumma occurs in the anterior portion in the tertiary stage.

Iris.—About 75 per cent. of cases of plastic iritis are caused by syphilis.

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This form of administering the Formates is one largely in vogue for increasing tone in those who go in for physical exertion, such as athletes and men who are very actively engaged, who are merely run down and not suffering from any illness, but require a sharp tonic. The Formates are also useful in the treatment of Chronic Rheumatism.

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—*British Medical Journal*

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Gummata may also occur in the iris or ciliary body.

Choroid.—Rarely affected alone. The retina is almost always involved.

Retina.—Very often involved, and useful vision may be lost or greatly impaired.

Optic Nerve.—The nerve head is frequently involved in hereditary and acquired syphilis. Atrophy of the nerve may or may not be associated with nerve degeneration in another part.

Ocular Muscles.—About 80 per cent. of paralysis of ocular muscles are due to syphilis.

Both the hereditary and acquired form may cause this.

Corneal Staphyloma

Treatment.—Epinephrin used in six cases of acute staphyloma, instead of puncture and bandage, with excellent results. Used as installation of 1:1000 solution three times daily. Useful even when cornea perforated.—Pontius, *American Practitioner*.

Intestinal Acholia

In "*La Presse Médicale*," Roger has a sparkling paper in which he discusses what he calls the paradox of intestinal acholia—the formation of foetid gases in the intestine accompanying fermentation, when the flow of bile is in abeyance, having regard to the fact that the bile itself is not really bactericidal. His explanation is that putrefaction proceeds thus vigorously in the absence of bile, not because an antiseptic is missing, but because substances which interfere with the action of microbic ferments, whether by checking their production, or neutralizing their effects, are no longer disseminated in the bowels. But, besides having this anti-zymotic part to play, the bile seems to exercise a selective influence on the growth of bacteria, favoring the colon bacilli to the prejudice of the anærobic organisms which are the most important factors in the production of putrefaction and the setting up of toxæmia. The ill-effects of intestinal acholia are, then, due to the suppression of this duplex influence of the bile on the contents of the intestinal canal, and not to any direct antiseptic action, as has often been supposed.—*Universal Medical Record*.

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No. 4

Original Communications

SOME ASPECTS OF RENAL SURGERY *

BY RAMON GUITERAS, M.D., NEW YORK.

Dr. Guiteras began his talk on the kidney by saying that as he understood the audience was formed of surgeons, physicians, specialists and general practitioners, he felt that he could not divide his slides in such a way as to give a talk to any particular group that would be interesting to other groups, and that he would therefore stroll through his slides, showing them hastily.

He began with anomalies of the kidney, and took up first the variety known as single, unilateral or asymmetrical, stating that they were very rare, and that, according to statistics, such a condition was found once in between four and five thousand bodies at autopsy—that in a period of ten years at Guy's Hospital, London, during which 4,632 autopsies had been performed, there had only been one case of single or unilateral kidney. He further stated that in teaching operative surgery on the cadaver for eight years, during which time he had frequently had eight or nine classes of four each running at one time, and in each class both kidneys were operated upon, he had never seen a case of unilateral kidney; and yet, in a small hospital—the Columbus—with which he was connected (of less than 100 beds), in a period of nine months, during which only 15 autopsies were performed, that three of these cases, or 20 per cent., proved to have but one kidney. He showed the three specimens from his slides, calling attention to their large size, and also to the fact that they were all lobulated and fissured, and said that such a

*An illustrated lecture, delivered before the Academy of Medicine, Toronto, February 4th, 1913.

condition was typical of a unilateral kidney. In one of these cases one fissure was very deep, extending from the pelvis to the outer border, and dividing the organ into two parts. Both the upper and lower segments of the kidney had each a fissure extending nearly half-way across it at right angles to the pelvis. This kidney had but one ureter, and was in the proper position, and it showed how easy it would be to have such an organ converted into two, if there had been two ureters present and one-half of the kidney in each renal fossa; or to have found such a kidney displaced low down in the median line, with its two segments attached by an isthmus, which would form an organ corresponding to a horseshoe kidney. The lecturer showed that a large quantity of tubercles were scattered over the kidney, and stated that statisticians, in speaking of unilateral kidneys, said that they were frequently affected with tuberculosis. This particular unilateral tubercular kidney had been referred to him from the medical side, with the diagnosis made a number of years ago, for operation on the following day, and he had made an incision down to the kidney, found it tubercular, and had removed it. The patient developed anuria immediately after the operation, and died of asthenia in eight days. There were no uremic symptoms. Autopsy showed the absence of the kidney on the right side, although there was a long projection of liver extending down, which closely resembled a kidney on palpation. An operation of this kind would be rare to-day, as kidney cases are better studied now than previously. We do, however, find cases in which we cannot feel the kidney on the other side, nor see its ureter nor catheterize it, if we do see it, and in such cases we must believe that no kidney is present on this side; and even if we contemplate operation on the other kidney, we must confirm our belief by an exploratory lumbar incision. In some cases, if we do see and catheterize the ureter, we find no urine coming down from it, and it is in such cases, as well as in cases of unilateral kidney, that we must believe that either both ureters go to the same kidney, or, more probably, that a non-functionating kidney is present on that side, and that the removal of the kidney on the other side would be followed by death.

He then took up the subject of another variety of anomalies—that of misplaced or ectopic kidneys—which he considers very interesting and instructive. He stated that they must not be confused with the displaced kidneys which were known as movable, which are held out of place by adhesions, the blood-vessels of which come from the normal side. The misplaced or ectopic

kidneys which he had encountered had the origin of the vascular pedicle below the normal site. He stated that the usual sites of ectopic kidney were at the sacro-iliac synchondrosis, on the promontory of the sacrum and in the pelvic cavity. He then showed the slide of a kidney in the pelvic cavity which had been mistaken for an ovarian cyst; another slide of a kidney situated at the sacro-iliac synchondrosis, and still another slide of one situated high up in the pelvis. In the case of the one situated at the sacro-iliac synchondrosis, he had considered it a case of movable kidney, which had become adherent to the tissues in that region. He had made the ordinary kidney incision in the loin, and thought that he felt the organ moving up and down with the respiration, and in an effort to cut down upon it through the mass of fat present, he went through the peritoneum and exposed a flattened spleen with a rounded border. He closed the peritoneum, and, cutting down farther, found the kidney, which was hydronephrotic. After freeing it, he pulled it up as far as possible and fixed it. The patient, however, suffered more pain than before the operation, and as the amount of kidney tissue was not great and the other kidney was perfectly healthy, he removed the organ, which he showed as a specimen of hydronephrosis. He said that all cases of ectopic kidney that he had had were hydronephrotic.

He then spoke of the study of a recent case of ectopic kidney. He stated the patient had entered the hospital complaining of some difficulty in urinating, of a swelling in the hypogastric region, of constipation and a general feeling of discomfort in the pelvis which prevented him from work. When standing up, no tumor could be felt, but when lying down, one could be easily outlined, extending from the pubes up to within two inches of the umbilicus. Bimanual palpation showed the tumor beginning above the prostate. The patient, after emptying his bladder, was catheterized, and no residual urine was found present. Cystoscopy revealed a normal bladder; the ureters had normal mouths and were easily catheterized, although the excursion of the cystoscope was somewhat impeded behind. Many diagnoses were made by the different attendants connected with the hospital. His own diagnosis was that of an hydatid cyst or a misplaced hydronephrotic kidney. The patient was prepared for operation, and, assisted by another surgeon of the hospital, he opened the abdominal wall down to the peritoneum, and found the anterior wall of the bladder normal. He incised the peritoneum above the bladder and found a tumor situated in the lumbo-sacral region,

and extending down into the pelvis, very much as a woman's net containing her hair hangs over the occiput. There was no hydatid cyst present. The tissues over the tumor were tense. An aspirating needle was inserted, and some fluid withdrawn. He sent this specimen to the laboratory to be examined for urea and pus, and waited for the report. In a few minutes the report came back that neither urea nor pus was found, but that there was albumin. This eliminated from his mind the presence of a misplaced kidney, and he thought it must be some kind of a cyst situated outside of the peritoneum, and that it would be advisable to unite the anterior and posterior layers of the peritoneum, leaving sufficient space to open the cyst, put a drain in and treat it as one would a cystic cavity. This was done. The following day, on going to the hospital, he learned that both urea and pus had been found in the fluid escaping through the drainage tube, pointing to the probability of an ectopic kidney. Shortly after this he had the patient radiographed with X-ray catheters in place, and found that while one catheter went up to the pelvis on one side (the left) that the right one curled up in what resembled the bladder. The patient was then cystoscoped, and the instrument allowed to remain in place during the radiograph taking, thinking, perhaps, that the catheter might have slid down from the ureter into the bladder. This showed that the one catheter had gone into the pelvis of the kidney and the other had gone into a cavity over the lumbo-sacral region, and had curled up there. Accordingly, collargol (10%) was injected, giving a beautiful view of the pelvis of the left kidney, which was seen to be in place, and also the shadow of a large mass in the lumbo-sacral region. This mass corresponded in position to the cyst that had been operated upon. Six (6) ounces of collargol had been injected into it. He feared if he had injected more it might have given rise to too great reaction. As it was, the reaction was marked. It was then decided to again operate upon this patient, and an incision was made from just above the anterior superior spine of the ilium down along Poupert's ligament, giving sufficient space to pull back the peritoneum and tissues contained in it to the other side until the kidney was reached. The kidney was then removed and a slide was shown, giving the position of the renal vessels and the ureter. The squeezing of the kidney forced the urine from the pelvis into the bladder. The specimen of the kidney was then shown, and the hydronephrotic condition easily seen.

The lecturer then threw upon the screen three kidney speci-

mens, showing three different grades of hydronephrosis, and the condition, size and shape of the pelvis of the kidney in these cases, as well as the condition and position of the ureters. He spoke of the various causes of hydronephrosis, and then stated that it usually began early in life, in which case it was dependent upon the valvular conditions of the ureter, which were probably congenital. When it began later it was acquired and due to obstruction.

Rupture of the kidney was then considered briefly, and the different varieties described. He showed a slide representing the body form of a patient who had had a fall of some 20-odd feet eleven days before entering the hospital. It resembled a large watermelon tucked into one side of the peritoneal cavity, extending from the diaphragm to the pubes. "As the patient had no hæmaturia, and there was no history of any, it appeared to be a rupture of the spleen, and an anterior abdominal incision was made, extending through the peritoneum. The intestines were found to be flattened out between the anterior and posterior peritoneal walls on account of something situated posteriorly to it which pushed the posterior layer forward. I accordingly closed the wound, turned the patient on to the healthy side, and made a loin incision into the kidney region, evacuating several quarts of reddish-brown fluid, containing whitish particles, typical of the fluid present in case of rupture of the kidney. Whether this was due to some action of the urine or whether pus was present, I do not remember. At any rate, if pus was present at the time, it was but a very small percentage. The fluid was evacuated and the cavity was washed with peroxide and salt solution, and a drain inserted. After a few days the patient began to run a temperature, and it was found that pus was present in the cavity about the kidney. A second operation was performed, and the kidney was found to be ruptured, and also the pelvis. The other kidney was found to be in good condition and the diseased kidney was removed."

Dr. Guiteras showed a picture of the ruptured kidney, with the urine extending through both the pelvis and the kidney. He stated he believed that a kidney which as an enlarged pelvis, dilated either by urine (hydronephrosis) or by pus (pyonephrosis) is more liable to be injured than any other variety, and he thinks that a pyonephrotic kidney due to stone is especially liable to rupture. He said that this was a case of subparietal rupture of the kidney, with an extensive accumulation of blood and urine about it; that he would later show a case of subpari-

etal rupture, in which the fluid was subcapsular. He stated that he had had quite a number of cases of subparietal injury from one cause or another, but only one open wound, a direct injury resulting from a stab wound in the back.

Nephrolithiasis.—The lecturer then showed slides of a few kidneys containing calculi, illustrating the changes brought about in these organs through them. His first picture was that of the kidney of a middle-aged woman, who entered the hospital complaining of dyspepsia and malaria. She said that she had suffered from dyspepsia for a number of years, but it was only within the last few years that she had had the attacks of malaria which had lasted from a few hours to a few days, accompanied by chills, fever and sweating and then subsiding. On examining her abdomen, a large mass was found on the right side, tender to the touch, which she said was an enlargement of her liver that she had ever since the malaria began. It was evident, however, that it was not the liver, but an enlarged kidney below it. It was quite prominent in the front. She was kept under observation for a few days, and her urine changed considerably, sometimes containing a large amount of pus, and at other times comparatively little. The pus came from the right side. Her attacks of malaria were evidently those of renal retention in a perinephritic kidney. When the urine was clear the kidney was enlarged and the patient was septic, and vice versa. The urine coming from the right side was mostly pus, and contained but a small quantity of the normal solids, showing that it was a case of pyonephrosis in a practically destroyed kidney. The other kidney was functioning sufficiently well to carry on the necessary elimination in case that it proved advisable to remove the right organ. A loin incision over the enlarged kidney showed it to be about nine inches long, and of relative width. It was removed, and on opening it, the five stones seen were found, one of which was bifurcated and four inches long. This particular stone evidently originated in two of the kidney calices, and they had grown down into the pelvis, and there formed a common trunk, which trunk engaged in the pelvic opening and caused from time to time temporary unilateral anuria; but when sufficient pus and urine had collected in the kidney pelvis to dilate it, a stretching of the organ caused it to push the pelvic opening away from the part of the stone lodged in it, and the retained urine escaped again. The other stones were from 2 1-2 to 1 3-4 inches in width, and were more or less rounded. It was the variety of kidney which called for removal.

The stone showing the particular formation plugging the ureter was then shown. Very recently he had removed a kidney eleven inches long, with two such bifurcated stones, one of which was so wedged into the ureter that no amount of dilatation was sufficient to discharge it.

Another case of pus kidney due to stone was then shown, which the lecturer had seen on a certain afternoon and which he had sent to the hospital for observation and probable operation. The patient had a temperature of 101, pulse of 90, respirations 36. On arrival at the hospital in an ambulance she had a temperature of 105, pulse of 130, respirations 46, and was in a state of collapse. She responded to stimulation however. On examining her on the following day the well-defined renal tumor which had been felt the day before was simply an ill-defined mass in the loin. The case seemed a clear one of pyonephrotic kidney, with renal retention due to stone, which had ruptured during the trip to the hospital, giving rise to perinephritic abscess. The abscess was opened and drained. A few days later an exploratory nephrotomy was performed, but no renal stone was found on palpating the pelvis. As the patient continued to run a septic temperature and lose strength and weight a nephrectomy was performed showing a stone embedded in a large mass of fibrous tissue that had not been detected at the time of nephrotomy, into which a probe could be passed from the pelvis of the kidney. This was a displaced, movable, pyonephrotic kidney containing a calculus.

Another case of unilateral anuria with great enlargement of the pelvis of the kidney due to an impacted stone at the beginning of the ureter was then shown. The tumor had been an enormous one (9 or 10 inches in all diameters) convoluted and distended. It was considered an emergency case and was removed as such, although it should have been opened and drained. At the time of the operation the kidney was almost hidden, but later on, after the pelvis of the kidney had been opened sufficiently to see the impacted stone, there was sufficient leakage of fluid from the cavity to show the presence of considerable good renal tissue. It may here be said that a kidney 10 inches in length when removed, after it has been opened and the pus and stones removed, and it has been preserved in fluid, may decrease to less than one-half the size. He considered cases of anuria due to stone the most interesting in renal surgery, and stated that he had had numerous cases of patients with but one functioning kidney who had no idea that one of their kidneys was useless. At home he has slides of many such cases which he calls derelict kidneys.

Cysts.—A few cystic kidneys were then shown. The first one was that of a large serous cyst which are generally single, although there may be two in one kidney. In this case there were three small cysts and one large one. The kidney tissue was very much deformed and the lower part of the organ was almost entirely destroyed. The lecturer said it was considered one of the best specimens of serous cyst ever removed.

Hydatid Cyst.—The next was a case of hydatid cyst of the kidney. The patient had come in suffering from great pain in the right loin. She had had a slight hæmaturia. The kidney was felt to be very long and very tender. The patient had slight elevation of temperature. Incision showed a very long kidney extending into the renal fossa downward to the iliac fossa. It was very adherent to the diaphragm. The lower end of the kidney was somewhat curled. A beautiful white cyst the size of a duck's egg but round was seen. It seemed to spring from the junction between the kidney proper and its pelvis. This was opened and a large number of small white cysts escaped running down by the side of the ureter and out of the wound. A piece of very white thickened membrane was found and removed from the inner part of the sac. It was a typical case of hydatid cyst with daughter cysts present. The outer side of the cyst wall was cut away and the remaining part was treated with pure carbolic acid, followed by alcohol. The patient had ether pneumonia after the operation, but later had a satisfactory recovery. The lecturer stated that at the time of writing his book he had found no other illustration of hydatid cyst of the kidney than this case of his and that the literature of the subject had been thoroughly gone over.

Polycystic Kidney.—The next slide showed the kidneys of a patient in one of his hospitals who died of uremia. This patient was 55 years of age and his kidneys had been gradually increasing in size for many years. The right was $10 \times 5\frac{1}{2}$ inches, weighing 56 ounces; the left $9\frac{1}{4} \times 5$ inches, weighing 49 ounces.

The next slide showed an illustration of the larger kidney split in two—a beautiful exhibition of cystic development. It seemed wonderful how anyone could go through life with such enormous kidneys suffering but little inconvenience excepting from their weight. The urine in these cases showed about the same changes as in interstitial nephritis. They were probably due to congenital causes, either beginning at the time of birth or shortly thereafter, increasing gradually but slowly in size. Such cases should be considered inoperable, unless an abscess is pres-

ent when it can be opened and drained. The removal of one such kidney is very fatal, and in case of an operation the patient would probably not live as long as if the kidney had been left alone.

Malignant tumors of the kidney were then considered and the first slide shown was that of a sarcoma. The patient had entered the hospital suffering from great pain on the right side where a large tumor could be felt. He was much emaciated and had constitutional symptoms. Although his condition was very serious an exploratory incision was made revealing an enormous kidney with a papillomatous appearing mass sprouting out through the capsular propria. The growth was very extensive and so fragile and friable that a great portion of it could have been scraped away with the finger, but it was extremely vascular and bled profusely when touched. The bleeding was stopped by very hot water and peroxide and the wound was closed, a drain going down to the kidney. The patient died very shortly after the operation and the specimen was secured. He said that the specimen showed what great changes can take place after its removal, as this papillomatous mass of friable and fragile tissue composing the tumor after it had been kept for some days in the preservative fluid had changed into solid looking tissue which, on cross section, closely resembled a piece of beef. He further said that only a few days before he had removed a prostate tissue of which very much resembled that which he had described in the kidney; that he had immediately placed it in gauze and taken it to be photographed, and even in an hour's time it had changed so as to look like a mass of beef.

The lecturer then showed a beautiful specimen of carcinoma of the kidney. He had been called to see this patient on account of hematuria and had found him wearing a large truss just about Poupart's ligament, specially constructed. On removing the truss he found a very large round tumor which was freely movable. He said that he had had this condition for some time which had been diagnosticated as a hernia and the special truss had been made for it, but that he felt a little worried over the blood in the urine. An examination of the urine showed the left kidney to be normal—this one (the right) to contain cancer cells. The patient was operated upon and the pedicle was found to be of unusual length; in fact so long that the tumor could be freely moved over a wide range and pushed down to the region of the bladder. The kidney was removed—nephrectomy. The patient was very uremic after the operation and only seemed benefited

by purging with large doses of blue mass. A specially constructed pen had to be made around his bed in which he constantly roamed about at night, in a delirious condition. The patient finally recovered and has lived six years and much to my surprise his family report him comparatively well.

The next case shown was one of hydronephroma. He stated that whereas the yellow mass could be plainly seen on the outside of the kidney they were much more distinctly seen on cross section. There was nothing particular about this patient excepting that he had for some time been losing weight, suffering from hæmaturia, and had some dragging feeling and occasional pain in the left side. His right kidney, however, had been found perfectly well. He had a malignant cachexia and a very large varicocele on the left side (the largest he had ever seen). I mention this because the spermatic vein on the left side runs into the renal vein and tumors of the kidney on this side are liable to cause left-sided varicocele.

80 Madison Ave.

(To be continued.)

Treatment of Pernicious Vomiting in Convalescence from Typhoid Fever

A. Khoury, in *Bulletins et mémoires de la Société médicale des hôpitaux de Paris*, reports the case of a girl of eighteen years who had suffered from typhoid fever for over ten weeks. Early in the period of convalescence there appeared vomiting, which remained uninfluenced by a large variety of drugs, diet, and saline injections. Gavage gave relief for only twenty-four hours. Remembering the persistent vomiting that occurs in adrenal insufficiency, as well as the initial vomiting and evidences of myocarditis and low arterial tension that had featured in the case under treatment, the author decided to administer epinephrine. Forty drops of the one to 1,000 solution daily by mouth proved useless, but when one milligramme of epinephrine was injected daily in two doses, the vomiting spells soon became less frequent, and in forty-eight hours had entirely ceased. The injections were continued for three days more. The author advises that this measure be tried in all cases similar to that reported.—*New York Medical Journal*.

SOME CLINICAL OBSERVATIONS ON ARTERIO-SCLEROSIS *

BY JAMES THIRD, M.D.

For the mass of humanity, life is one unceasing struggle. During the first half of this struggle, our enemies come largely from without. In armies, whose strength none can estimate, they camp along our line of march, break through the weak points of our defence, burden us with fears and suffering, cripple and deform where they cannot destroy. During the second half, these external agencies, disordered and discomfited, give up the fight, to a large extent, just as the vital forces begin to show the wear and tear to which they have been subjected, as damage and decay begin to advance just a little more rapidly than the processes of repair. With the second period, we are more especially concerned to-night. Our observations will be confined in the main to three classes: physicians and surgeons from fifty to sixty; women from forty-five to sixty; business men from forty-five to sixty-five years of age.

Physicians and Surgeons.—That a man is just as old as his arteries, is one of the durable maxims of internal medicine. Almost daily we are reminded of this fact by the tragic death of some member of our own profession. Why should a man in the full vigor of life be cut off by disorders of the circulation, disorders that are more easily prevented than nine-tenths of the so-called preventable diseases? To answer this and other questions, we must study the factors leading to an early breaking-down of the vascular system. Even when due allowance is made for the influence of heredity, an influence that we have no means of estimating accurately, there yet remains unexplained a wide disparity in the death-rate from arterial disease.

The following statistics are taken from the report of the Registrar-General for the Province of Ontario for the year 1911. They have been compared with those of nine other years and may be considered a fair average.

*Address before the Academy of Medicine, Toronto, March 4th. 1913.

	Total Deaths for Year.	Deaths, 50-60.	70 and Up.
Clergymen	61	11.5%	44.3%
Barristers	33	12 %	33.3%
Physicians	60	33.3%	21 %
Carpenters	308	18 %	31 %
Blacksmiths	112	18 %	40 %
Farmers	3,229	12 %	50 %

These figures should give us cause for reflection, but not necessarily for alarm, since the measure of a full life is not indicated by years. It will be observed from the above that the toll levied on the medical profession is highest for the decade between fifty and sixty; highest not only for the profession itself, but much the highest when compared with the other professions and the trades generally. It will be noticed, too, that the percentage of deaths for the medical profession for this period is exactly the same as that for the legal profession some twenty years later. From the published statistics, it is impossible to ascertain the causes of this high mortality in the medical profession for this period. I have therefore collected from the obituary notices in representative British, American and Canadian journals for the year 1911, the causes of death of fifty medical men, between the ages of fifty and sixty. It may not surprise you that 70 per cent. of these deaths were due to a breaking down of the cardio-vascular-renal system. The limited number investigated is due to the fact that the cause of death is not always given in obituary notices. While evidence based on such small numbers is not conclusive, it must be regarded as of some value, first, because the diagnosis in these cases would be accurate, and secondly, because the Registrar-General's report, above referred to, shows that, excluding "old age" and "still born," the mortality from disease of the cardio-vascular-renal system is 18.5 per cent. of the total. In the light of our present knowledge, a diagnosis of chronic interstitial nephritis in most patients past fifty is incomplete.

Another small series of cases is interesting and at least suggestive. Of nine gentlemen known to many of us, who began the study of medicine after thirty-two, and who had previously been engaged in agricultural or kindred pursuits, seven died of arteriosclerosis within fifteen years of their graduation, one is living twenty-two years after, but in a condition, from vascular degeneration, scarcely preferable to death, and one, twenty years

after graduation, is still in active practice, but with a blood pressure rarely below 200 mm. Hg. Are we to regard the development of arteriosclerosis in these nine gentlemen as a mere coincidence? Or are we to regard the undertaking, comparatively late in life, of hard mental work as a special cause of vascular decay? This leads us to ask, what is there in the practice of medicine that causes such a high death-rate of practitioners between the ages of fifty and sixty? Why is it that 79 per cent. of the profession do not run the allotted span? Or again, with regard to those who are our valued help-mates in the profession—the sisters and nurses—why is the mortality in comparatively early life so high? From the Registrar-General's report for 1911, we find that 61.6 per cent. of deaths among the Sisters in our hospitals and other charities occurred before the age of forty, and that no less than 82 per cent. of deaths among nurses occurred before fifty. Even when we remember that a considerable number of the Sisters die of tuberculosis, and that the nursing profession is still in its infancy, we must admit that the mortality, both among Sisters and nurses, is alarmingly high. In an endeavor to find an answer to our questions, let us examine without too much detail, the every-day life of the general practitioner. Hard mental work is, and always has been, the open sesame of our profession. John Y. Bassett, the Alabama student, immortalized by Osler, writing from Paris in 1836, beautifully expresses this idea: "There is not a solitary great man in France that is idle, for if he were, that moment he would be outstripped; it is a race, and there are none so far ahead that they are not pressed by others; many are distanced, it is true, but there are none allowed to walk over the course."

It is a common observation that most men, of whatever occupation, who lead regular lives, free from excesses of all kinds, as a rule live out their allotted span. It is fair to argue, then, that the irregularity of the life of the general practitioner is a potent factor in his early break-down. Physiologists tell us that most men after forty or forty-five take food far beyond the needs of the body. In this respect, medical men are notorious sinners. Over-eating, when combined with constipation, induces passive congestion of the abdominal viscera, overfilling the splanchnic reservoir, and autointoxication. The absorption of toxins leads not only to early degeneration in the circulatory apparatus, but to poisoning of the nervous system. This poisoning shows itself in worry, in neurasthenia, and a vicious circle is thereby established.

With the toxins as a cause in mind, I have been at a loss to understand why phlebo-sclerosis is so much less common than arteriosclerosis, since the toxins would be present in full strength in the venous blood. Is it due to a difference of work, a difference of structure, or is it a combination of the two? The actual expenditure of energy in mental work is relatively small, but the influence of that expenditure on the organism generally, and on the digestive system particularly, is very considerable. In most of our text-books we are told that hard manual labor, by increasing the peripheral resistance, favors the development of arteriosclerosis. The statistics, so far as Ontario is concerned, do not lend confirmation to this view.

Observations.—From the statistics quoted, no one can accuse the members of the medical profession of “intruding themselves into the company of posterity.”

The large number dying between fifty and sixty must be regarded as a calamity, not only to the profession, but to the world. It is fitting that we should ask ourselves why the mortality among the members of our profession is approximately three times that of the other professions for this period; and, having asked the question, it is surely our duty to ourselves, to our homes, to our science, to find the answer.

The limited statistics quoted seem to indicate that 70 per cent. of those dying between fifty and sixty are carried off by what may properly be termed a preventable disease. We cannot longer limit the preventable diseases to those of bacterial origin. Arteriosclerosis, up to a certain age, must be regarded as a preventable disease.

From the lessons of statistics, from the lessons of every-day life, it is fairly evident that our irregular hours and epicurean appetites are the chief causes in the early development of arteriosclerosis. The spiritual injunction of St. Paul, “Let a man examine himself,” should be taken to heart by the members of the medical profession, at least in a physical sense. How often, in recent years, have men who considered themselves in excellent health been stunned to find they had a blood-pressure well-nigh the breaking point? We should not examine ourselves too frequently however. Over-solicitude leads to introspection. No man can stand a contemplation of his own ailments, real or imagined. So much for the profession.

FEMALES WITH HYPERTENSION.

Total in series, two hundred and fifty. Ages, forty-five to sixty.

Group 1.—Moderate sustained hypertension at climacterium, returning to normal, 67 per cent.

Group 2.—Hypertension at climacterium, going on to definite sclerosis, 33 per cent.

Of the eighty-two making up Group 2, fifty-five, or 32 per cent. of the total, either lost weight or remained about normal, while twenty-seven, or 11 per cent. of the total, increased in weight (180 lbs. or over), and of the latter, all were heavy feeders, showing a preference for meats and sugars. Let us now study the history of a fairly typical case of each group.

GROUP 1.

Mrs. J., age forty-five. Good family history, except that her father suffered from asthma. She has always been more or less nervous; has a restless eye and a high buccal arch; appetite good, but is afraid to eat; bowels constipated; belches large quantities of gas; suffers from frequent attacks of palpitation, especially at night. Does not sleep well. A trifling noise made by the children "gets on her nerves." Has lost ten pounds in weight. Menstruation regular. No nocturia. The stomach contents, four hours after an ordinary meal, showed free Hcl. 2 per cent. The right kidney could be made out below the costal margin; no pain; urine, no albumin, Sp. G. 1015. Hæmoglobin 80 per cent. Apex of heart in normal position. Blood pressure 175 mm. Hg. No stiffening of radials or bronchials.

She was ordered a generous proteid diet, an alkaline mixture with small doses of sod. brom. and a laxative, to be taken well diluted, one hour after meals. This prescription she took at intervals for two years, at the end of which time menstruation had ceased and blood-pressure was normal.

GROUP 2.

Mrs. S. came under observation March 4th, 1904, at the age of forty-three. Her illness at this time was similar in all respects to that of the patient whose history has just been given, and the same line of treatment was followed. Eighteen months later she again presented herself. There was no burning in the stomach, though she complained of flatulence and frequent attacks of palpitation, especially at night. When tired, a dragging pain was experienced in the neighborhood of the right kidney, which could be readily palpated. She had lost thirteen pounds in weight; menstruation had ceased. She complained of headache, largely

occipital. The apex of the heart was in the normal position, although the second aortic sound was markedly accentuated. Her blood-pressure stood at 190 mm. Hg. She had to rise once or twice during the night to void urine. No albumin, Sp. Gr. 1005.

The proteids were reduced, though white meats, bacon, and a very moderate number of eggs were allowed. An abdominal bandage was ordered. She was under observation at this time for five months, and during this period took iodides with a laxative, small doses of bromide being added occasionally. She regained her lost weight and expressed herself as feeling well. Her blood-pressure was now 170. She was advised to stop medicines, with the exception of the morning laxative, and to lead a quiet life, free from worry, excitement and fatigue.

She again consulted me in April, 1912, or six years later, when the following notes were made: Dizziness and shortness of breath; numbness in the left foot and hand; pains in the legs if she walks more than three or four blocks; these were always relieved by resting for a few minutes and elevating the feet—the “peripheral crisis” of Pal;* indefinite pains about the joints, described as rheumatic. Has some difficulty in descending stairs; there is much less pain in legs, if she comes down backwards. Occipital headache almost constant, frequently wakens her in the early morning. The apex is displaced downwards and to the left two inches, second aortic sound accentuated, heart rapid, no murmurs; brachials tortuous. Blood-pressure 300. The urine contains a small amount of albumin, with many hyaline and granular casts. Patient died suddenly two months later.

Observations.—When we consider the histories of these cases of hypertension, two facts seem evident; first, that many women at the climacterium show hypertension; and, secondly, that a certain percentage of these pass on insensibly into definite arteriosclerosis. In none of the five hundred hypertensives, not even in the advanced sclerotic cases, could headache be said to be a prominent symptom until the appearance of a trace of albumin in the urine. So constant has this relationship been that I am usually able to anticipate the renal involvement.

Approximately 75 per cent. of women over thirty-five years of age show an increase of blood-pressure of from 5 to 10 mm. Hg. for the twelve hours preceding menstruation. About the same percentage under thirty years of age show no change what-

*J. Pal, *Gefuss-Krisen*, Leipzig, 1905.

ever. The slight increase cannot, therefore, be regarded as physiological.

The period of observation has not been sufficiently extended to form even an approximate idea of the duration of the disease in those of Group 2, who remained about their normal weight; but of those who gained in weight (180 lbs. and over), none have lived three years after decided stiffening of the arteries could be made out.

BUSINESS MEN.

Number in the series, two hundred and fifty; syphilitics and lead-workers not included. The majority began to show definite hypertension between fifty and fifty-five.

Mr. R., present age sixty-seven. Came under observation five years ago, complaining of dizziness on any sudden change of position; motor-boat uproar in his ears; some ill-defined numbness in the legs; occasional attacks of abdominal pain, attributed to flatulence; confusion of ideas towards the close of a hard day's work. Some dyspnoea on exertion, but never a prominent symptom. Bowels constipated; apex of heart displaced downwards and to the left one and a half inches. Impulse slow, strong and wide-spread. Second aortic sound accentuated; mitral systolic murmur of recent rheumatic origin. No headache. Radials and brachials tortuous; blood-pressure 250; urine, no alb., no sugar. Sp. Gr. 1018. Loss of weight seventeen pounds. He was advised to continue his work, but to lessen both responsibility and number of hours. Was allowed fresh fish, bacon, white meats, and given pot. iodid., sod. brom., and a laxative until the thumping in his ears was relieved, when the bromide was discontinued. At the end of six months, his blood-pressure stood at 180 mm. Hg. The iodide was now discontinued, and one drachm of mag. sulph. on rising prescribed. The blood-pressure was taken each month for the next year, without showing any appreciable variation. About this time he suffered from a hæmorrhage into his vitreous, and iodide was again given for three months. He then spent several weeks at one of the Ontario springs, drank freely of the laxative waters, and, on returning, reported himself much improved. For the past two years his blood-pressure has ranged from 190 to 240. He eats sparingly, takes a glass of mineral water on rising, avoids fatigue, takes frequent holidays, and continues at the head of a large business concern.

Observations.—Modern methods and modern competition require men to work at high tension and for long hours. Directly or indirectly, the circulatory system bears the brunt of the stress

and strain. The pulse tension creeps steadily up. There is increased work thrown on the heart, which, in order to maintain a sufficient flow in the capillary beds, daily draws on its reserve forces. There is a limit to reserves as there is to everything else human, and ere long the irrigation system shows signs of clogging. The heart quickens its speed in a final effort to meet the emergency. For a time this strategic move succeeds, but only for a time. Sooner or later, stagnation shows itself, especially in the abdominal viscera. Imperfect digestion results, bringing in its train putrefactive changes in the bowels, flatulence and other disturbances. The toxins now literally pour into the defenceless life-stream and the destruction is well-nigh complete.

Diagnosis.—When the arteries begin to stiffen, the patient presents many symptoms closely resembling those of neurasthenia. A systematic study of the blood-pressure will do much to clear up the diagnosis. The sphygmomanometer is quite as helpful in the diagnosis of vascular and certain neurotic affections as the stethoscope is in respiratory diseases. We must not be misled by hypertension due to angiospasm, so often seen in nervous women at the climacterium. Digital compression in the estimation of blood-pressure, no matter how experienced the finger, is untrustworthy.

The size of the arteries differs a good deal in different individuals. If the radials are small, we are too apt to conclude that the heart's work is not being properly performed. We must take the blood-pressure, and, above all, search for the corroborative evidence.

A low reading does not necessarily mean an absence of sclerosis; the myocardium may be weakening or the general health below normal. The position of the apex of the heart is a valuable sign. It is well to remember, however, that the apex is usually three-quarters to one inch to the left of the point of maximum cardiac impulse. This can be determined by percussion and confirmed by fluoroscopy. If there is tortuosity of a vessel that is usually straight, we may safely infer that there is some degree of arteriosclerosis. In health, the temporals are tortuous. Before applying the sphygmomanometer to the arm of a nervous woman, it is advisable to spend a few moments in explaining its use, otherwise a reading altogether too high will be registered; but don't let your patients know too much about blood-pressure or blood-pressure instruments, or you'll breed a colony of very troublesome neurasthenics.

General Management.—A careful examination is the first

essential in treatment. It quiets useless fears, inspires confidence and gains intelligent co-operation. If a business man, he should relax, but not relinquish, his grip on business, and should take frequent holidays, especially at some of our mineral springs. I am not a Nauheimite, but neither am I blind to the fact that many patients with hypertension and even well-marked arteriosclerosis are greatly benefited by six or eight weeks at the Nauheim Springs. I attribute the "cure" to the laxative waters, the regular hours, the quiet restfulness of the place, the cheery optimism that seems to pervade everything, and last, but by no means least, its reputation as a healing shrine.

In routine practice to-day, too much dependence is placed on vasodilators and iodides. A certain variable degree of hypertension is necessary, and so long as it does not approach too closely the breaking point, it should be left alone. The nitrites may relieve some symptoms for a time, but only for a time. Except in the earliest stages of the disease, I have never seen any permanent benefit from the iodides. With the hippurates, as recommended by Oliver of Harrogate, my experience is limited and not altogether favorable. With the preparations of mistletoe I have as yet had no experience. The splanchnic reservoir is usually overfilled, and judicious purgation will do more than anything else to restore the equilibrium. An occasional dose of calomel is often of the greatest advantage. When dilatation of the heart takes place, abstraction of a pint or a pint and a half of blood will give temporary relief. Hot-air baths, by stimulating the action of the skin, will also give temporary relief. Alcohol should be prohibited in all cases, and tea and tobacco, too, if there are intermittent pains in the calves, relieved by resting. It is better, perhaps, that the patient should become a vegetarian, as that term is understood to-day. I have for years, however, allowed bacon, fresh fish and white meats in moderation, and apparently with advantage. The mental attitude of the patient must be considered. Too many restrictions are apt to lead to gloomy introspection. We must make life worth living. If we fail in this, we fail in discharging one of the important functions of our high office.

ACROMEGALY WITH LOCALISED MUSCULAR ATROPHY *

BY JULIAN LOUDON, B.A., M.B., M.R.C.S.

Assistant in Clinical Medicine, University of Toronto; Junior Assistant Physician, St. Michael's Hospital, Toronto.

Mr. Chairman and Fellows of the Academy,—

The patient I am about to present before the meeting this evening has been entered upon the programme as an example of acromegaly, but it will soon become evident to you that he is by no means an uncomplicated straightforward illustration of this interesting and comparatively rare condition.

The chief complaint and most noticeable feature is the marked wasting and loss of power in the intrinsic muscles of the left hand. The diseases which came to mind as I was engaged upon the investigation of the case were as follows: 1. Ulnar nerve paralysis. 2. Klumpké paralysis due to injury of the 8C. and 1D. nerve roots. 3. Syringomyelia. 4. Muscular dystrophy. 5. Progressive muscular atrophy. 6. Acromegaly.

It will now be necessary to eliminate the incorrect diseases from the above list and thereby arrive at the diagnosis.

The subject is a male, age 37, occupation machinist. He dates the commencement of his disorder back to 1904, when he fell from a horse while serving in the United States Army in the Philippine Islands. It was this accident, he alleges, which was the cause of the deformity to be seen at the left elbow. The X-ray plates show this deformity to be due to a comminuted fracture of the olecranon and a separation of the coronoid process—a rare association. The second injury to the left elbow occurred in Montreal in December, 1908 when he fell from the cab of a slowly moving locomotive. This injury was not so severe as the first one, and he was able to return to work three months later. In June, 1909, six months after the Montreal accident, wasting in the left hand was noticed for the first time. In June, 1910, the patient came to Toronto and attended the Out-patient Department of St. Michael's Hospital in order to receive advice concerning the left elbow and hand. He was requested to return again for further investigation, but in the meantime accepted a position outside the city. For the last six to eight months he has noticed weakness and awkwardness in some of the movements of

*Read before the Section of Medicine, Academy of Medicine, Toronto, March, 11, 1913.

the right hand. For example, he cannot pick up small objects from a smooth, level surface with his former facility, and has had difficulty in stropping his razor and in rolling cigarettes. Quite recently he has had burning sensations over the front of the thighs and legs. In February, 1913, he returned to St. Michael's Hospital, and was admitted as an in-patient under Dr. Uren. Dr. Uren asked me to make a thorough study of the case and kindly allowed me to exhibit the patient at this section of the Academy. The patient has been at work again for the past couple of days, having remained in the hospital about a month.

PERSONAL HISTORY, PREVIOUS HEALTH AND HABITS.

He was born in Chicago of German parents. He was always big for his age, and weighed 208 lbs. when 17. He had measles when 15, and had urethritis when 17. When in the Philippine Islands, in 1904, he had amoebic dysentery and ulcers on the legs. At one time he was champion shot-putter of the Pacific Coast section of the United States army. He has indulged in alcoholic drinks for many years, but has never taken enough at once to become incapacitated.

FAMILY HISTORY.

This does not reveal anything of importance. The father is said to have died of fatty degeneration of the heart and peritonitis at 46. The mother is living and well at 76. There are no brothers. The only sister is living and well at 39. The wife and two children of the patient are living and well.

EXAMINATION OF LEFT ARM AND HAND.

The hand has assumed the typical claw position. The fingers are rather unshapely. There is wasting of all the intrinsic muscles of the hand and not only those supplied by the ulnar nerve. This would at once rule out ulnar nerve paralysis as a possible diagnosis. The grip is weak, and there is almost complete loss of power in the interossei and lumbricals. The fingers remain separated while at rest, due to the unopposed abducting action of the extensor communis digitorum and the extensor indicis. The action of all the thenar and hypothenar muscles is extremely weak. There was no response in any of the muscles to the faradic and galvanic currents.

Turning to the forearm, we find it also to be somewhat wasted. The power in all the muscles is fairly good. There was loss of response to faradism in the flexor longus pollicis. The

flexor sublimis digitorum and the flexor carpi ulnaris reacted only slightly with a strong current. The galvanic current caused pain and could not be tried. The elbow shows a marked projection backwards when flexed, due to the condition mentioned earlier. The upper arm is extremely well developed and apparently normal.

There is not the slightest alteration in epicritic or protopathic sensibility over any part of the arm or hand. This would place the lesion above the junction of the motor and sensory nerve-roots, and in all probability in the cells of the anterior horn of the spinal cord. Klumpké paralysis is now disposed of. Syringomyelia would also be ruled out as far as the left arm is concerned. Muscular dystrophy need be no longer considered, as the distribution of the muscular wasting is quite unlike that found in the myopathies.

EXAMINATION OF RIGHT ARM AND HAND.

The fingers of this hand also are rather unshapely. There is definite wasting of all the interosseous spaces, and flatness of the thenar and hypothenar eminences. All the hand muscles act, but, as stated earlier, there is great difficulty in performing some of the finer movements. The grip of the hand is exceedingly strong. The interossei react to galvanism, and slightly to faradism. The lumbricals react to galvanism, but not to faradism. The thenar muscles react to galvanism, but all except the *opponens pollicis* fail to react to Faradism. The hypothenar muscles do not react to faradism, and all except the *flexor brevis minimi digiti* fail to react to Galvanism. It reacts very sluggishly and in a vermiform manner typical of the "reaction of degeneration." It is difficult to draw conclusions from these electrical reactions, because the great thickness of the epidermis of the palm prevents a fair test.

The forearm and arm are apparently unaffected, and there is no sensory loss anywhere. So far as the muscular wasting is concerned, we still have a case of progressive muscular atrophy due to degeneration of the anterior horns of the grey matter of the spinal cord in the eighth cervical and first dorsal segments.

EXAMINATION OF THE REMAINDER OF THE SURFACE OF THE BODY.

The patient is about 5 feet 11 inches in height. Weight is 213 pounds. The muscles are of exceptional size and power. The right frontal eminence is distinctly more prominent than the left. The supraorbital ridges are well marked, and the left palpebral fissure is wider than the right. The malar regions are

especially prominent. There is a wide separation between all the teeth of the upper jaw. The lower jaws are massive, and the left is slightly larger than the right. The inner ends of the clavicles seem to be enlarged, and the xiphisternum projects forward. A few scars may be seen on either shin, and the three middle toes of either foot are of the hammer type. It has not been necessary to wear larger boots of late years. No conclusions can be drawn from the size of the hat, as the patient has never worn any kind other than a soft one. He has not worn gloves for years, and has no former photographs of himself.

EXAMINATION OF THE REMAINDER OF THE NERVOUS SYSTEM.

Dr. H. A. McCullough has kindly made a thorough examination of the eyes, and has found nothing abnormal, except anæsthesia of the conjunctiva. All the other cranial nerves are normal. There is no alteration in the voice, stature, and gait. There is no nystagmus, tremor or incoördination of movements. Rombergism is absent. The deep reflexes are present in the arms and legs, but are rather difficult to elicit. There is no ankle clonus, and the plantar reflexes are of the normal flexor type.

EXAMINATION OF THE CHEST AND ABDOMEN.

Nothing abnormal can be found in any of the abdominal or thoracic organs. The heart is normal in size, and the sounds are clear and of normal duration. The lungs are clear. The liver is not enlarged, and the spleen is not palpable.

ANALYSIS OF URINE.

Nothing abnormal is found by any of the ordinary clinical tests.

X-RAY EXAMINATION OF THE SKULL.

The bones of the skull are quite thick, but no enlargement of the sella turica can be seen in the ordinary radiograms. The neck also was radiographed to make quite certain of the absence of supernumerary ribs.

CONCLUSIONS AND DIAGNOSIS.

We have seen that the muscular wasting is of the spinal type and forms a typical clinical picture of the disease known as progressive muscular atrophy. The points in favor of acromegaly are as follows: (1) The large size of the patient suggests

acromegaly, as this disease especially affects people of powerful muscular development. (2) The male sex is the more commonly affected. (3) The age is within the third and fourth decade, when acromegaly is commonest. (4) The insidious onset, extending over years, is also in keeping with acromegaly. (5) Paræsthesia in the legs is often a symptom of acromegaly. (6) The most conclusive signs of acromegaly are the prominence of the right frontal region, the supraorbital ridges, malar regions, inner ends of clavicles, and xiphisternum. The separation of the teeth, the massive jaws, the unshapely fingers, and hammer toes would all point to the same diagnosis.

We are, therefore, forced to the conclusion that we have an extremely rare condition, in which we have acromegaly combined with progressive muscular atrophy. Cases showing this combination have been recorded by Bregmann, Duchesneau and Huismans. It is not known whether or not the disturbance of pituitary secretion is responsible for the cord degeneration with muscular wasting, as well as for the overgrowth of cartilage, bone, and other tissues.

Auricular Fibrillation

An excellent pathological and clinical outline of the principal features of auricular fibrillation is given in the *Lancet* for November 2nd, 1912, by C. Lea, who points out that the diagnosis, clinically, rests almost entirely upon the pulse. There are three cardinal features: (1) The absolute irregularity, with no relation between the size and strength of the beats, and the pauses; (2) the presence of venous pulsation in the neck; and (3) the polygraphic evidence. The symptoms are not necessarily specific to fibrillation, for they may be attributable to the presence of the preceding lesion, if any. The associated cardiac conditions may be: (1) lesions of the "venous base"—the auricula-ventricular valves; (2) lesions of the cardio-arterio-renal system, or (3) other diseases. Associated functional conditions may be: (1) Heart-block; (2) paroxysmal tachycardia; and (3) extrasystole. Treatment should be (a) specific—directed to the removal of the cause, or (b) symptomatic—when digitalis should be given, perhaps as Mackenzie directs, in large doses, if small ones do not elicit favorable response.—*The Universal Medical Record*.

MEDICAL THOUGHTS, TRUTHS, FACTS AND FANCIES

BY JAMES S. SPRAGUE, M.D., PERTH, ONT.

In all ages since "the heavens pealed their first notes to sound the march of time," the records of man, preserved, illustrate most fully that the first duty of a legislator is his guardianship of the public health, and the nation that has its well-regulated laws in regard to this first consideration is in evidence of its exalted standing. The conservators of the nation's health have, in their altruistic labors, much opposition from an ignorant people and from those whose dealings with the people are purely for selfish and monetary interests; and many illustrations can be produced, not only from our own Dominion's records, but from the records which, from time to time, have appeared in association with the work of Dr. Wiley, of the U. S. Department of Agriculture—or better defined as Chief of the Bureau of Chemistry of the U. S. Department of Agriculture. It is needless to state that this, our distinguished brother, while in office, had to contend with organizations and with grafters, whose characters and nefarious acts were those only equalled in other fields by Becker and his gang. This subject, embracing so many interests, cannot be fully unfolded in this paper. However, we will be content with but brief mention of two or three points. Not long since, a deputation of honest women presented a petition to our Sir James, in which their prayer was that, in order to make legal the solemnization of marriages, well-approved medical certificates, certifying to the good health of the contracting parties, should be presented to the clergyman. It is well known that this honorable and patriot request was not granted, and not given the promise of due and future consideration. When we consider that many States have already established such rulings, and that many prominent divines and statesmen—and even ladies' journals are advocating similar clean records, for the nation's welfare—we are lost in wonder at ignorance, fear, of negligence, and praise that there is enlightenment among our neighbors, and from whom we can learn many useful lessons, and that the Holstein Breeders' Association is not our nation's or Province's first consideration.

Not long since, a preparation in the form of a medicine, whose compounder was an ordinary V. S. (styling himself

Doctor), and recommending the mixture for some ordinary disorders of the family, but principally for cattle and horses, was presented to me for analysis by a druggist, who, apparently, knew many of the components thereof and considered them dangerous, and wishing a Government analyst to give me his report. I was informed that if \$5 were sent to him I could have his answer. It may be said that I can have an analysis of this compound made by a competent U. S. authority for a mere trifle.

There are those in active practice who are ignorant of the fact that, on page 45 of "*The Propaganda for Reform in Patent Medicines*" (Edition of 1908), there is full exposition of a cod-liver oil compound—yes, of several compounds that careful analyses tell us contain no globules of oil, seen under the microscope. If not for the work of the American Medical Association, these preparations, and others equally as fraudulent (whose makers are allowed, until exposed, to ascribe exaggerated curative properties to their medicines, which, too, are not represented) would yet survive. We, not only, but the dear people, most innocently would be continuously fleeced not only of our money, but deceiving ourselves and our patients.

When such worthless preparations have been well advertised in the medical journals of the U. S.—especially in those of the Northern and Western States—and have been denounced by competent analysts, their advertisements may be seen, most especially noticeable, in Canadian, English and Southern medical journals. Even when condemned, these worthless compounds die slowly, and are often revived, like many of the *ols*, *ins*, *ines*, etc., yet have a similar and brief existence, and we, who are considered wise, accept and use samples, and even recommend what we do not know, fooling ourselves, and, worse still, our patients, who, asking plaintively for bread, are, by us, given a stone; and our wonder is what judgment the people would give us if they acted as our examiners in materia medica or in therapeutics.

Osler says (according to *Therapeutic Gazette*, B. M. J.) that from the day the student enters the hospital until graduation, he should study under skilled supervision the action of the few great drugs. Which are they? The author does not give his list, but quotes a story told of James Jackson. When asked which he considered the greatest drugs, his reply was: "Opium, mercury, antimony, and Jesuits' bark. They were those of my teacher, Jacob Holyoke." "Yes," replied his interlocutor, "and they are those of Holyoke's master, James Douglas, in the early

part of the eighteenth century." It may be said, and truthfully so, that there are very few in practice who know full well all the good and all the harm concerning these old drugs—individually, or when associated with others of well-acknowledged worth. During a practice, which commenced in 1869, it affords me no pleasure to state that the treatment of rheumatism—taken as an example—has had at least eight distinct periods. During each period there appeared for a brief time a treatment—a sure one—which, by nearly every M.D. was used, and he who did not fall in line was considered out of date. I, too, have seen cures made by the old remedies—yet alive—and by men who knew how to use them, and, better still, they knew how to prepare them, and I assure you they were not in tablet form.

It has been well said by the *N. Y. State Journal of Medicine*: "Proprietary preparations will be much less in vogue when students of medicine are taught therapeutics in the same serious spirit that they are taught the other branches of medicine. If the student has not well in hand his therapeutics when he leaves college, he falls an easy victim to the ready-made prescription habit. It is an unfortunate commentary upon the general practitioner of medicine that it is he who is made to keep alive the proprietary business, in the same manner that the general public is made to keep alive the patent medicine." In brief, we have many medical journals doing such scandalous work for us, while the yellow-covered almanacs are doing work equally as disgusting to our times for the dear people, who are our equals as easy-marks.

There was a period in our medical life when the study of the actions of legitimate medicines afforded us much pleasurable and profitable research, and the text-books were those of men of recognized authority, and not those, the publications, issued by prominent drug companies.

The young M.D. easily falls a victim to the ready-made tablet and compound, and in due time, failing to get the promised results, he realizes his position as a silent and unpaid, disappointed, even dishonored salesman, and in a susurrus he awakes to an insane belief that drugs are of no use; but realizing his ignorance, he admits he knows nothing, even a very little, about them, and, with Plautus, he exclaims: "*Certa amittimus, dum incerta petimus*," and he realizes that *Nemo mortalibus omnibus horis sapit*, and that the hours of wisdom come with retrospection and self-inspection.

From a reliable volume (Vol. 1, pp. 138, 139, W. Lexis, *Unterrichtswesen*, Sc., Berlin, 1904), we add:

"For clinical studies proper, internal medicine forms the centre at German universities. Medical education there follows the principle that medicine is a scientific whole; . . . all its varied disciplines must play upon each other; and from this point of view, internal medicine is regarded as the mother of all clinical divisions."

"Everything in medicine (says Brubaker) is connected, or should be connected, with therapeutics. Anatomy, physiology, pathology, etc., must all converge toward therapeutics as a common centre. Each of these, as indeed of all others contributory thereto, has an effective value only in proportion to the succor it gives in the treatment of disease." Any ordinary observer among us has, and has had, many illustrations afforded him that several drug companies are apparently acting the paternal and philanthropic consideration for his ignorance in medicine, and their (?) greater knowledge, which he was supposed to have obtained at college, and which his degree verifies—is announced in numberless booklets and samples, blotting papers, penholders, seductive and not wisely-mixed medical facetiæ and barber-shop jokes.

How consoling the reflection and our dreams that we, as M.D.'s, are being urged by the best-expressed words in medicine to bend our necks, around which the chains of slavery to some newly-formed and newly-worded compound are being forged—and to which some few eminent and thoughtless men in our ranks have given testimonials—whose literature the druggist, the dentist and veterinary share equally with us—now secretly appearing in newspapers—now and then discussed by some cheap doctor with barbers and shoemakers—in due time widely noticed in daily papers—and finally dies out as a sure cure; but time revives it, and another *ol* or *ines* blurs our vision, depletes our purse and disappoints us. The moral remains, that he who does not know that he knows naught should have a few lessons in mat. med. and legalized, not shop, therapeutics, if he wants a bank account, wants to do honest practice, and does not want to act as advertiser and silent salesman for non-official and ephemeral goods, named as remedies.

"*Devita profanas vocum novitates et oppositiones falsi nominis scientiæ*" are the words of Paul to Timothy, and are as applicable to divinity students as to us, who are students always, and he who is not is not worthy of our esteem, when our mission is so urgent, demanding research and opposition to science—when unwisely so named—which is beclouding the vision and intelli-

gence of us who should be leaders and not copyists in therapeutics under patents.

It is advisable to learn truths from wiser men—men who are in the profession and have no goods for sale; who know what our lives are for; who respect themselves and teach us to respect ourselves and to guard our patients as a sacred trust, and of which, in due time, we will have to give a true report. "Watch the experiments of others," says one distinguished brother, Professor Wyllie, of Edinburgh, "who are less cautious than you are; read all about the new remedies, but, in your own practice, keep two years behind the times." If so, you will not use any, for another *ol* or *in* will then be arising from the ashes of its predecessor or of its near kindred, and you can nurse your wrath, delusions and folly, consoling your dear self that there were others—many others—even now, and have been, and will ever be in medicine—good prey, easily-trapped victims for a trademarked mixture, for land agents, brokers, stock promoters and other mild-eyed benefactors, when self is considered. If in doubt as regards your business capabilities, consult *Med. World*, 1520 Chestnut St., Phila., Pa., and you can see your fellows—even yourself well illustrated—even as you are.

If one of us should meet with several of our old friends in an informal manner, and interests medical be the absorbing and discussed subjects, it would afford any one of us pleasing surprises to note the frequency of mention of rare cures; how "I did this," "I did that," "I used this," and the most frequent expression of virility, "I cured my patient"; but we need not wait for the gathering, but better content ourselves with the reading of regular journalistic literature as equal proofs of the above declarations. "*Je la pansay et Dieu la guarit*" (I dressed the wound and God healed it) were the words of Paré, the father of French surgery. I am much pleased with the words of Dr. Edward John Tilt, "We must trust to nature, and believe that an Almighty power is operating in the human frame, ever working to restore health by successive changes and renewals, with definite laws, and successive issues often ascribed to our remedies," and with Plato's philosophy, that the physician "cures the body with the mind, and the mind which is or has been sick can cure nothing, and the eye cannot be cured without the rest of the body, nor the body without the mind." One fact is this: The years teach much which the days never knew, and the words of Sir Thomas Overbury, M.D., are as endorsements. "A man of noble spirit converts all occurrences into experiences, between

which experiences and his reason there is marriage, and the issues are his actions." Plato also tells us a fairly-admitted belief, that the best doctors are those who have themselves suffered *every* malady, and are not constitutionally strong or very healthy, or robust in physique.

Brother, when I reflect on or consider what are we here for—and that for a fourth of a century—even longer—I have contributed copy for this, our journal, I am sorrowfully convinced that too many of us in medicine live too much the life of hermits, lacking too much that fraternity so essential not only as regards our stability and respectability, but more especially that unison which conserves our brother's welfare; but, more than this, the patient's best care and attention. Life is indeed full of compromises, says Depew, and they are absolutely essential, for no man can live unto himself and for himself alone. When, too, I have learned that five fellow-graduates in medicine have been called *extra Jordan* during the last twelve months—and I much older than they were—reminders are in evidence that another, or others more worthy should possess my stilus, papyrus and ink-horn, and present souvenirs to the elect, and to those under bonds, and if "it is not in mortals to command success, we'll do more, Sempronius, we'll deserve it."—Addison's "*Cato*."

"*Jam satis est, verbum non amplius addam.*"

Giving Drugs to Infants and Children

Bartley, in the *Long Island Medical Journal*, reminds us that very bitter drugs, such as quinine salts, creosote compounds, ichthyol and camphor, are the most difficult drugs to disguise. The aromatic syrup and elixir of yerba santa and adjuvant elixir are the best for this purpose. Quinine salts rubbed into a paste with spirits of chloroform and suspended in one of these liquids, will be taken by almost any child with little difficulty. Creosote carbonate rubbed up with sweet almond and shaken with equal parts of aromatic syrup of yerba santa and water, will be taken by most children for some time without objection or apparent digestive disturbance.—*Therapeutic Gazette*.

Selected Articles

THE REPORT OF THE LONDON RADIUM INSTITUTE

We have from time to time recorded the remarkable results obtained from radium therapy on the Continent. The report of the Radium Institute, of London, by the Medical Superintendent, Mr. A. E. Hayward Pinch (*British Medical Journal*, Jan. 25th) confirms them.

THE REACTION.

All tissues when treated with radium respond in some manner, but the nature and extent of this response vary greatly, and depend upon:

1. *The apparatus, screening and dosage employed.*
2. *The nature of the tissue treated.*
3. *The condition of the tissue treated.* If X-rays, ionization, CO₂ snow, etc., have been previously used in the attempts to bring about a cure, the reaction is frequently atypical, and repair is exceedingly slow.

4. *The extent of the area treated.* The reaction is dependent not only upon the strength of the applicator, but also upon its superficial area. For example, the reaction from an applicator of half strength applied over an area of 4 sq. cm. is often not more intense in degree than that obtained with an applicator of quarter strength over a surface area of 16 sq. cm.

5. *Personal idiosyncrasy.* This is important and often produces curiously puzzling results. The factors to be considered are age, sex, and temperament, susceptibility to actinic rays generally—for example, as in persons who suffer much from freckling or solar eczema—hyperidrosis, exalted vasomotor sensibility, etc.

The reaction usually appears between the seventh and fifteenth day and may vary in character from a slight erythema to a destructive ulceration. Four degrees may be distinguished.

1. Simple erythema.
2. Erythema followed by desquamation.
3. Vesication with superficial ulceration.
4. Deep ulceration; sometimes accompanied by the production of an eschar.

In some patients the reaction is much delayed, in others it is exceedingly prompt. It is difficult, if not impossible, to say why this difference should be. It is particularly noticeable in the treatment of capillary naevi. Instead of the reaction appearing on about the seventh or eighth day, it has been evident three days after the exposure. In others a period of four weeks has elapsed, though the applicators, screening, and exposures have been identical.

The increased susceptibility to changes of temperature over areas that have been treated with radium is remarkable. Many patients who have had rodent ulcers and superficial skin lesions cured with radium experience great discomfort at the site of the old lesion when very cold or very warm air plays upon it. This susceptibility, however, gradually disappears in two or three months.

Marked lethargy is frequently noted in patients receiving prolonged exposures with large quantities of heavily screened radium. It generally appears about the fourth day and passes off within a few days of cessation of the exposures.

CARCINOMATA.

Epitheliomata of the Skin. Different results are obtained with epitheliomata affecting the glabrous skin as opposed to those involving mucous surfaces. Epitheliomata of the face, trunk or extremities, if flat and superficial and accompanied by little or no ulceration, give satisfactory results when treated with quarter or half strength apparatus, screened with 0.2 mm. of lead, the exposures varying from 6 to 12 hours' duration, spread over a period of three or four days. Retrogression of the growth quickly occurs and little or no scarring results.

Ulcerating epitheliomata, without much subjacent infiltration, require treatment with quarter or half strength apparatus applied unscreened for a total exposure of six to eight hours, spread over a period of four or five days, and repeated after an interval of six weeks, if necessary. A destructive reaction follows, but the result is usually good, and there is but little cicatricial contraction.

Ulcerated epitheliomata with great infiltration require prolonged treatment with heavily-screened apparatus emitting "ultra-penetrating" rays. Exposures of 30 to 60 hours given during one week, and repeated in five or six weeks, are best; but if the growth shows signs of rapid extension, the borders should be given a vigorous treatment with unscreened apparatus.

EPITHELIOMATA IN RELATION WITH MUCOUS MEMBRANES.

Epitheliomata of the tongue, buccal, gingival, and pharyngeal mucous membranes are almost uniformly disappointing in their ultimate response to radium therapy. Temporary improvement is not uncommon, and sometimes this goes as far as disappearance of the original lesion. But the treatment has practically no effect in preventing or delaying the appearance of metastatic deposits in the cervical glands and elsewhere. The rate of growth of the infected glands cannot often be retarded by the prolonged and persistent use of the "ultra-penetrating" rays. If the dose be large, the glands sometimes break down and discharge a milky-white fluid through a small sinus. It is remarkable that ulceration of glands thus treated rarely occurs. It is difficult to give satisfactory exposures within the oral cavity, as patients are often unable to tolerate applicators in the mouth for the necessary time, and should the reaction be at all pronounced the congestion of the tissues causes great discomfort. There is the further danger that a severe reaction may act as a stimulus to the growth, increase its size, and hasten metastasis.

EPITHELIOMATA OF THE VAGINAL AND UTERINE MUCOSA.

These conditions are more amenable to the action of radium, and some distinctly encouraging results have been obtained. Small primary growths of the vaginal mucosa unaccompanied by much deep infiltration of the vaginal tissues may be completely eradicated by treatment with full strength or half-strength apparatus and an unscreened exposure of one to three hours. With larger ulcerated and deeply infiltrating growths radium is best applied heavily screened, and with prolonged exposures of from 30 to 60 hours, extending over a week or ten days. This frequently checks the rate of growth, heals the ulceration, and lessens the amount of infiltration. Secondary non-ulcerated deposits in the cellular tissue of the vagina often respond extremely well to treatment with the "ultra-penetrating" rays, and in some cases the deposits completely disappear.

CARCINOMA OF THE UTERUS.

In inoperable malignant disease in this situation radium often gives results which cannot be attained by any other methods. Hæmorrhage is arrested, discharge is diminished and rendered inoffensive, ulceration is healed, and pain is greatly relieved. Growth is checked, sometimes completely arrested, and the sur-

rounding infiltration and induration are so much lessened that a few cases previously declared to be inoperable become operable.

The treatment is best carried out by the introduction of a tube containing 50 to 100 mg. of radium, screened with 2 mm. of lead and 3 mm. of rubber, into the cervical canal, or, if this be not practicable, into the posterior fornix, a large flat strong applicator, screened with 2 mm. of lead, being placed on the abdominal wall over the fundus of the uterus. The exposures should be prolonged, and should be from 30 to 60 hours' duration, spread over a period of from five to ten days. The series of exposures should be repeated at intervals of not less than six weeks. The action is, however, only local, and though it often checks growth, yet in most cases dissemination will sooner or later occur, and the disease spread beyond the effective range of radium.

CARCINOMA OF THE RECTUM AND ALIMENTARY CANAL.

Radium therapy not infrequently is valuable, but it is difficult to say what are the factors which determine or contribute to success. It causes the arrest of hæmorrhage, healing, partial or complete, of ulcers, diminution of discharge and pain, and retardation of growth. In some cases more striking changes occur. The growth shrinks, undergoes a fibrous transformation, and becomes much less fixed to the underlying tissues, so that carcinoma previously inoperable can be easily and completely removed. A few patients manifest unusual susceptibility, and treatment of 18 to 24 hours with heavily screened radium is followed by a severe, though transient, proctitis.

The routine method of treatment in rectal cases is the introduction—through an operating sigmoidoscope, if necessary—of 50 to 100 mg. of radium, screened in 2 mm. of lead and 3 mm. of rubber. It is maintained in position by a stem of soft silver wire, which is bent at an acute angle at the anal orifice, and fastened by strapping at a T bandage in the fold between the buttocks. Each exposure is from six to twelve hours in duration, and is repeated daily until a total treatment of 30 to 60 hours has been given. The series should be repeated after an interval of six weeks.

CARCINOMA OF THE STOMACH.

A few inoperable cases of cancer of the stomach have been treated by radium, not in the hope of cure, but with the object of checking the growth and alleviating the symptoms. Some slight benefit resulted from the application of powerful appa-

tus screened with 2 mm. of lead over the gastric region, the pain being lessened, the frequency of vomiting decreased, and the general health improved.

CARCINOMA OF THE BREAST.

The results, on the whole, are encouraging, especially when the primary growth is of the sclerotic rather than of the medullary type, when the secondary deposits occur in the skin, lymphatics, and lymphatic glands, and there are no internal metastases. Radium should never be used as a substitute for operation, but when the case is inoperable it will relieve pain, promote the healing of ulcerated surfaces, and check the growth of the secondary deposits. In not a few cases it will bring about the almost complete absorption of superficial carcinomatous nodules and infected glands. Cases have been in which the physical signs were strongly suggestive, if not positively indicative, of carcinomatous deposits in the lungs, and the prolonged application for from 30 to 40 hours of a large quantity of radium, screened through 2 mm. of lead, caused apparent resolution. In rapidly growing cancers of the encephaloid type radium can do little but relieve pain. The post-operative lymphatic engorgement of the arm is sometimes benefited by the application of a heavily screened tube of 50 to 100 mg. of radium placed at the apex of the axillary cavity, an exposure of 24 to 30 hours spread over 5 days being given.

PAGET'S DISEASE.

Two patients have been treated. An unmarried woman of 35, had a patent urachus, and the disease had commenced at the umbilicus. It readily yielded to radium, and apparent cure was effected. A married woman, aged 58, had the left breast affected. She came under treatment recently, and great improvement has already occurred. In both cases a quarter strength applicator, unscreened, and an exposure of $1\frac{1}{2}$ hours were used.

RODENT ULCER.

This is, of all forms of malignant disease, the most amenable to radium. Untreated rodent ulcers not exceeding 2 cm. in diameter, and not affecting mucous membrane, cartilage, or bone, almost invariably yield to one exposure of 1 to 3 hours with a full-strength applicator unscreened. If the ulcer is large—say, 20 sq. cm. and upwards—an unscreened application over the whole area at the same time is inadvisable in view of the severe

systemic disturbance which would follow. Two, three, or four applications should be made in rotation to different parts at intervals of 3 weeks or a month.

When a mucous membrane is affected rodent ulcers prove much more refractory, though exception should perhaps be made in regard to the palpebral mucosa, where small rodent ulcers often respond well to exposures of strong unscreened apparatus of 15 to 20 minutes' duration on three consecutive days. If the rodent ulcer has attacked bone or cartilage, great care must be exercised not to give too heavy an exposure, or a very acute, painful, and prolonged inflammation may result.

When the extent, position, or character of the ulcer precludes the possibility of strong unscreened exposures, the best results will probably be attained by prolonged exposures with heavily screened apparatus using the "ultra-penetrating" rays only. This method is followed by little or no active inflammatory change, and, in addition, often alleviates the pain. The action of radium can be greatly aided by judicious skin grafting as soon as the base of the ulcer has assumed a healthy appearance.

Many of those ulcers which have been treated for many years with X-rays, zinc ionization, CO_2 , etc., respond badly to radium. Frequently the previously treated tissues break down to an extent which far exceeds the existing ulceration, and repair is very slow and imperfect. More than half of the cases of rodent ulcer which applied for treatment at the Radium Institute during the past year were of this character, and the destruction of tissue was so great that no hope of satisfactory repair could be entertained.

SARCOMATA.

Whenever possible sarcomata are best treated by inserting into their centre a tube containing 50 to 100 mg. of radium, with a screen of 0.5 or 1 mm. of silver; it is left in position for 20 or 30 hours. The application is repeated after a month. This frequently proves most effective; the tumor steadily shrinks and becomes replaced by a dense fibrous nodule with little or no tendency to grow. If this method be impracticable, prolonged exposures with flat applicators screened with 1 or 2 mm. of lead, and placed so as to cover as great an extent of the growth as possible, and to produce a "cross-fire" (see *Review*, 1911, p. 10) will often do much to check the growth. But this procedure is not nearly so promising as the preceding one. In either case it is essential to give as vigorous a treatment as possible, as the great vascularity of these growths, and their rapid and wide dissem-

ination by the blood stream, militate strongly against the chances of success.

FLAT SUPERFICIAL NÆVI, CAPILLARY NÆVI—"PORT WINE"
STAINS.

These are the most difficult nævi to treat, and much care and patience must be exercised. The factor of personal idiosyncrasy is always prominent, and it is difficult to lay down any definite rules as to strength and duration of exposure. It is best to proceed with caution, giving a short, unscreened exposure, and if necessary gradually increasing the same until a satisfactory reaction has been obtained. As a general rule, apparatus of quarter or half strength should be used, the screening should not exceed 0.02 mm. aluminum, and the exposures should range from 10 to 60 minutes. The best results are obtained when the nævus is superficial, and shows no tendency to infiltration. If much infiltration exist the treatment must be much more vigorous, and a slight destructive reaction produced. A smooth, supple and white scar will be left.

CAVERNOUS NÆVI.

These lesions are frequently particularly suitable for treatment by "cross-fire," and generally give good results. Half-strength applicators should be used with screens of 0.1 mm. of lead and exposures of from 20 minutes to 1 hour, given daily for 3 consecutive days, and the series repeated in a month. Under this method the nævus slowly and steadily shrinks, without any surface irritation.

KELOID.

The results are admirable. Recent keloids occurring in the young are the most easily cured. Applicators of half strength should be used with screens of 1 mm. of silver and an exposure of from 15 to 20 hours extending over three successive days. The series should be repeated at intervals of 1 month. A steady and gradual return of the tissues to the normal is produced without any surface irritation. Small elevated and rapidly growing keloids may be safely treated by a single exposure of 1½ hours with a half-strength apparatus unscreened. The resultant scar is usually smooth and supple, and shows no tendency to further keloidal formation.

PAROTID TUMORS.

These growths appear to be peculiarly susceptible to radium, and in almost every case distinct improvement, frequently going on to apparent cure, is observed. The treatment must, however, be lengthy. Applicators of half or full strength should be used and screened with 2 mm. of lead. The tumor should, if possible, be covered over its whole extent, and the exposure should be of not less than 30 hours' duration extended over 45 days. The series of exposures should be repeated at intervals of 4 to 6 weeks so long as is necessary.

FIBROMATA.

Two cases of fibromata of the penis were cured, although previous treatment had proved ineffective.

FIBROID DISEASES OF THE UTERUS.

Only 4 patients have been treated, and only 2 have been under observation long enough to enable any opinion to be formed as to the benefit which may be obtained. In both distinct improvement has resulted.

LICHENIFICATION OF THE SKIN.

This intractable condition is quickly cured by short exposures to half-strength applicators unscreened or screened with the thinnest aluminum. Relief of the intolerable irritation is often marked within 24 hours. There is little or no tendency to relapse.

PRURITUS.

Radium is of great use, especially if the pruritus is of long standing and associated with leucoplakia or hyperkeratosis. When no lesion exists and the trouble is purely nervous the results are not so satisfactory. No definite rules can be laid down for treatment, as the local conditions vary so greatly, but the screening and exposures must be adjusted to the character of the lesion.

CHRONIC ECZEMA AND PSORIASIS.

These conditions generally yield readily to short unscreened exposures with quarter-strength apparatus applied for 2 to 3 minutes on 3 successive days, the exposure being repeated after a week or fortnight if necessary. In chronic eczema the cure

may be permanent, but in psoriasis the patches tend to recur sooner or later, and require further treatment.

LUPUS VULGARIS.

Treatment with Finsen light is to be preferred to radium, and whenever possible should be adopted. If radium be used, however, half strength or full strength applicators should be used without screen, and a destructive reaction produced.

LUPUS ERYTHEMATOSUS.

This condition is usually greatly improved by radium. Care must be taken not to give too strong a dose. The best results usually follow the use of a quarter or half strength applicator sufficiently large to reach well beyond the borders of the lesion unscreened or screened with 0.01 mm. aluminum, and an exposure of 40 to 60 minutes.

TUBERCULOUS ADENITIS.

Prolonged exposures of from 20 to 30 hours' duration in all, with heavily screened radium emitting only the "ultra-penetrating" rays will generally cause steady diminution of the glands without suppuration or irritation.

ARTHRITIS DEFORMANS.

This extremely obstinate, and progressive, malady is not infrequently strikingly benefited by the daily drinking of 250 c.c. of radium emanation solution of a strength of 1 to 2 millicuries per litre. The treatment must, however, be continued for a long time. At least 6 weeks are likely to elapse before any change is noted. In a favorable case the articular and muscular pains are lessened, or disappear, movements of the affected joints become much freer and are accompanied by less grating, the muscles controlling the joints regain much of their lost tone, and the general health is greatly improved. In most cases the emanation solution produces diuresis, and in a few it acts as a slight laxative.

PROPHYLACTIC TREATMENT.

During the period between Sept., 1911, and Dec., 1912, 39 patients who had recently undergone operation for malignant disease received post-operative prophylactic irradiation. Only 7 recurrences had been reported by January 1, 1913. Full and

half strength applicators with screens of 2 mm. of lead and containing from 50 to 300 mg. of radium were used. The length of exposure varied between 20 and 60 hours spread over a period of 3 to 10 days, according to the nature of the disease. It is too soon to appraise the value of radium in preventing recurrence, but as the majority of the patients had suffered from extensive, severe, and rapidly progressive malignant disease, and the operators had expressed grave doubts as to the probability of their remaining free from the disease for more than a few months, the low percentage of recurrences so far noted does much to justify routine post-operative irradiation. It should prove of special service when it has not been possible to operate well beyond the appreciable area of the disease.—*The Medical Review*.

The official report of the work carried out at the Radium Institute, London, has just been issued. It covers the work done from August 14th, 1911, to December 31st, 1912. Great care has evidently been exercised in preparing it, for it is very full and complete and the deductions made as to the value of the treatment are eminently sane and impartial.

In all 657 cases have been observed. Of this number 38 were examined, but not treated; 41 had been recently treated and the results not yet noted; 39 received prophylactic treatment only, 53 are apparently cured; 28 are cured; 245 are improved; 70 are not improved; 88 abandoned the treatment, and 55 are dead. It is to be remembered that all kinds of cases were asked for and received for the purpose of study.

In tabulating the results according to the pathological condition present, it is to be noted that in general the findings are much the same as have been observed by other workers in this field, such as Louis Wickham, of Paris; Robert Abbé, of New York, and W. H. B. Aikins and F. C. Harrison, of Toronto. Epitheliomata of the skin and rodent ulcers are agreed by all these observers to be the most amenable of all forms of malignant disease, to the action of radium. Carcinoma of the uterus, when inoperable, under the action of radium, can be vastly improved. "The hæmorrhage is arrested, the discharge is diminished in amount, and rendered inoffensive in character, the ulceration is healed and the pain is greatly relieved. The rate of growth is checked, sometimes completely arrested." Several interesting case reports are given bearing out this statement.

In dermatological conditions the Institute has found radium to have a wide sphere of influence, and its action on naevi, keloids, lichens, eezemas, lupus vulgaris, and lupus erythematosus is most beneficial.

Mention is made of prophylactic treatment by radium, that is, its use to prevent recurrence following operation for malignancy and the results are said to be enough "to justify the routine adoption of post-operative irradiation."

Altogether the report shows that the establishment of such an institution was justified, for it is doing good work and is being conducted on the proper lines. It is a satisfaction, too, to have the work done by observers on this side of the Atlantic confirmed in such a striking fashion.—*Canada Lancet*.

Editorials.

IMMEDIATE OPERATION IN APPENDICITIS

Mr. Edmund Owen read an interesting paper on this subject before the Medical Society of London, February 10th. He asked this question: Are the best results in the treatment of appendicitis to be obtained in the greatest number of cases by immediate operation or by temporizing?

In answering that question he said he was in favor of immediate operation, and as soon as a diagnosis is made, within the first twelve hours if possible. All those who took part in the discussion agreed with Mr. Owen. After many years of discussion we believe that the great majority of physicians and surgeons in all parts of the world concur with Mr. Owen. This has been the opinion of most of the surgeons in Canada for a number of years. We think, however, that only a few surgeons in Canada and Great Britain held this opinion twenty years ago.

In connection with this subject the writer has a very lively recollection of a discussion that took place on the treatment of appendicitis at a meeting of the American Association of Obstetricians and Gynecologists held in Toronto nineteen years ago. Dr. Willis G. Macdonald, of Albany, N.Y., in opening the discussion, expressed the opinion that in fulminating appendicitis the operation should be performed as soon as possible. A few hours will turn the tide against the patient, and if you wait until the following morning the favorable moment for operation is past. The earnest words of Dr. Murphy, of Chicago, were very incisive and produced a profound impres-

sion on the audience, although many disagreed with him. Among other things he said: "When patients have unmistakable symptoms of appendicitis, to-day, not to-morrow, is the time for operation. When appendicitis is present, we cannot say where, how or when it will end, or to where it will lead."

Dr. Henry Carstens, of Detroit, said: "Every case of appendicitis ought to be operated on not to-morrow, not the next day, but this very hour. If this is done we will not have any statistics that can say 31 deaths out of 50 cases, but we shall have such statistics as Dr. Morris gives, 98 recoveries out of 100 cases."

Dr. Cushing, of Boston, said: "I fully agree with Drs. Murphy and Carstens." These men expressed their decided opinions after some years of practise. Dr. Murphy previous to that time had operated on 189 patients with a mortality of 9.7 per cent. Dr. Murphy was probably the first to recommend immediate operation, something like 25 years ago, but so far as we know, he first gave public expression to this opinion at the Toronto meeting 19 years ago.

DR. FRIEDMANN'S TREATMENT OF TUBERCULOSIS

The Lancet (English) stated early in the year that Dr. Friedmann's treatment of tuberculosis has been greatly exaggerated in the lay press especially in foreign countries. At a meeting of the Berlin Medical Society, early in February, Professor Bier regarded it as undesirable that a system of treatment, which was not yet sufficiently tested, and had heretofore been only used by Dr. Friedmann himself should be lauded in the foreign press as affording a sovereign remedy.

The Medical Record, March 8th, expressed the hope that the events of the first week of Dr. Friedmann's residence in New York would not prejudice the profession in America against the remedy for tuberculosis, which he claims to have discovered. "His course since landing unfortunately strengthened the impression which the reports of his actions in Berlin had aroused, that his thoughts were occupied with the commercial aspects of his culture. The loud trumpeting with which the newspapers greeted his arrival was probably through no fault of his, but his actions after arrival have not been such as to prejudice the local profession in his favor. It is not the accepted way of proving the therapeutic efficacy of a drug to hire an expensive office on the most fashionable public street in the city and to announce that patients will be received and treated, for pay, with the remedy, the nature and mode of preparation of which are kept secret."

There have been some strange misconceptions in connection with the extraordinary, highly hysterical exploitation of Friedmann's treatment. It has been stated that Friedmann has discovered something new about the immunizing powers of the living bacterial organism as compared with the dead organism used by Wright and his school. This is incorrect, as living cultures were used by Trudeau twenty years ago, and have been used by clinicians and scientists in various parts of the world since 1892. Similar mis-statements have been made as to intravenous injections.

Some of the lay newspapers wish to know why Dr. Friedmann "cannot be accorded fair play." He would not submit his remedy to a test by his Government at home; but, instead, came to America to get "fair play." New York was inclined to be slightly

conservative. The Public Health Service offered to give the treatment *after demonstration of its harmlessness*. This desire to protect the public was considered narrow and "unfair" to Dr. Friedmann.

There was nothing *narrow* or *unfair* about the majority in Ontario. The Government, the University and the Hospital for Sick Children won in the struggle to get the great Berliner, who was not properly appreciated in his own Berlin. He was beautifully exploited in Ottawa. Toronto received him with open arms. He demonstrated his treatment with his *secret remedy* in the University pathological laboratory, and in the Children's Hospital. Then the Hon. Adam Beck carried him off in triumph to London.

The Journal of the American Medical Association speaks as follows: "Dr. Friedmann seems to us to be receiving the largest opportunity that any discoverer could desire for the demonstration of his treatment. It appears moreover that the newspapers which have hastily assumed that he is being unjustly treated have missed an important point—indeed, the important point in the whole matter: What about justice to the public? Would it be fair or just to the throngs of tuberculosis sufferers, excited by hope of a 'sure cure' to facilitate their unlimited experimentation and exploitation by an unknown and perhaps dangerous method? It would not; and justice to the public, while not incompatible with justice to Dr. Friedmann, is, after all, the paramount consideration."

This "paramount consideration" is apparently almost ignored in Ontario. Our Provincial University aids in exploiting a secret remedy in violence of the rules of medical ethics generally accepted in all parts of the civilized world. We are told that Dr. Friedmann is a charming person, whose chief aim is

to help the sick and afflicted. In the interests of suffering humanity we sincerely hope that good will result from his efforts which many think are not quite unselfish. In the meantime we must acknowledge that he is in some respects a very superior person, and we believe that so far as his own interests (both commercial and otherwise) are concerned he is the best advertiser the medical world has ever known.

AN UNFORTUNATE OCCURRENCE

A man was arrested for drunkenness in Toronto, and when charged with his offence in the Police Station was remanded and removed to the hospital ward in the jail. The next day he was sent to the General Hospital, where he died of pneumonia a few hours after admission. It is suggested in the lay press that a medical examination at the time of his arrest, and proper care thereafter might have saved his life. Mistakes in diagnosis as to drunkenness have been made the world over, even by qualified medical practitioners, especially in general hospitals. It is a terrible thing to have a man with a fractured skull arrested and placed in the cells for the night. Policemen cannot of course be expected to make a diagnosis in such cases. Even a careful medical practitioner may be mistaken for the time being, especially if he detects the smell of alcohol on the man's breath. Such accidents in England in the past caused much adverse comment, and laws were passed to prevent as far as possible such occurrences, and as a consequence in that country a doctor is called in to examine every man taken to the police station, charged with drunkenness, and the doctor's fee must be paid by the prisoner, if the charge is proved.

We hope some regulations of this kind will soon be enforced in Toronto or perhaps better in all of Canada.

TORONTO HEALTH BULLETIN

We desire to congratulate Dr. Hastings and his staff on the excellent character of the Municipal Health Bulletin. In the February issue we find some very sensible remarks on various subjects, especially respecting measles. It is somewhat remarkable that so many people consider measles a rather trifling disease. We are told in the bulletin that the mortality from measles is 3 per cent. in the houses of the well-to-do, 10 per cent. in the houses of the poor, and frequently as high as 50 per cent. in the hospitals for infants; 95 per cent. of deaths from measles are in children under five years of age. If, therefore, we could delay the attacks until the fifth year we have accomplished a good deal. Measles kills almost always through its complications of which pneumonia, which may develop at any stage, is the most common.

The following is taken from the paper written by Dr. Wynn who had charge of the "Girls' College," and used certain precautions to prevent epidemics and especially one of measles.

"For the past six years we have taken the temperatures of all pupils at 6.30 a.m., before they were allowed to get up, during the first 21 days of each term, and at 6 p.m. we take the temperatures of all those who share rooms with other girls. Any case showing the slightest rise of temperature is isolated and watched, and the process has saved the school from epidemics, and over and over again has enabled

us to isolate an infectious case early enough to prevent its spread. Measles is invariably heralded by a slight rise to 99 degrees or a little over for from 24 hours to 3 or 4 days before any symptoms appear, or the patient begins to feel poorly. If isolated at this stage you can efficiently prevent its spread."

TORONTO BOARD OF HEALTH

We were told at the latter end of February that the estimates of the Toronto Board of Health for the current year amounted to about \$220,000. This would mean that the increase over the expenditure of last year will be about \$20,000. The additional \$20,000 will be devoted largely to improving the facilities for "Child Welfare Work." It is hoped that this department will do much in the way of educating mothers as to the proper care of infants with a view to materially reducing the serious infant mortality of the past. It is also expected that increased attention will be paid to the prevention of tuberculosis.

HEALTH MATTERS IN BERLIN

We regret very much that there has been a certain amount of friction between the municipal authorities of Berlin, and Dr. McNally, the District Health Officer, representing the Provincial Board. Chief Inspector Dr. Bell, who is by the way a very competent officer, went to Berlin to confer with the authorities of that city and Dr. McNally. We are informed by the *Mail and Empire*, March 3rd, that Mayor Heuler, of Berlin, termed the action of the Provincial Board

of Health in endeavoring to enforce the order without the local Board's approval "a piece of impertinence."

So far as we know Berlin's Mayor is an honest and conscientious man, and has up to a certain extent a perfect right to hold his own opinions. However, we must remind him in a kindly way that he assumes a very serious responsibility when he opposes an order of the Provincial Board as to vaccination. However, in all such cases we consider that it is the duty of the Provincial Board to be considerate and conciliatory as far as possible. But it happens that the spread of smallpox during the last few months in Ontario has been very serious. Fortunately for the last twenty years the public in Canada, and especially in Ontario, are rapidly learning to appreciate the great importance of active measures to prevent this very loathsome disease. We rejoice to know that general vaccination will prevent the disease, and with the simple little operation now performed in a cleanly way with modern vaccine matter the dangers connected therewith are as nearly as possible nil.

EDITORIAL NOTES

Canadian Medical Association

The next meeting of the Canadian Medical Association will be held in London, Ont., June 24th to 27th, under the Presidency of Dr. H. A. McCallum.

The Heather Club

The Heather Club Chapter of the "Daughters of the Empire," held their Annual Meeting February 14th at the Nurses' Home, Hospital for Sick Children, with Dr. J. H. Elliott in the chair. Addresses were delivered by Rev. Mr. Southam and Dr. Harold Parsons. A vote of thanks was tendered to Col. and Mrs. Albert E. Gooderham on account of their efforts in connection with the establishment of the new Preventorium on Yonge Street, near Eglinton.

The Annual Meeting of the Ontario Health Officers' Association will be held in the Parliament Buildings, Toronto, May 29th and 30th, at which all the Medical Officers in the Province are required to attend, as provided in Section 42 of the Public Health Act.

Arrangements are being made for reduced rates on the principal lines of railway, and a large attendance is expected.

The programme will be issued at an early date.

A. H. WRIGHT, M.D.,

President.

J. W. S. McCULLOUGH, M.D.,

Secretary.

The Toronto Academy of Medicine

We are pleased to be able to state that the Toronto Academy of Medicine is still in a flourishing condition. Dr. Ramon Guiteras, of New York, delivered a very interesting address on "Urinary Surgery" on the 4th of February. Before the address, Dr. W. H. B. Aikins entertained about fifty of the Fellows at dinner in the York Club.

At the regular meeting, March 4th, Dr. Third, of Kingston, and Dr. Macphail, of Montreal, were the guests of the evening. Before the meeting, Dr. Herbert Hamilton, Vice-President of the

Academy, entertained Doctors Third and Macphail and about fifty of the Fellows at the York Club.

The Aesculapian Club

At the last meeting of the Aesculapian Club for the year ending March, 1913, Mr. Holme Smith and Mr. Cousins delivered addresses on the work of the Toronto Harbor Commission. The addresses were exceedingly interesting, and well illustrated by maps and diagrams. The speakers gave the audience the impression that the citizens are commencing to realize that Toronto is a great city, and those in charge of affairs should look ahead for many years and plan accordingly.

It was decided to increase the number of Fellows for membership from 60 to 70, on account of the large and pressing waiting list.

We have to congratulate the retiring President, Dr. Albert A. Macdonald, on the signal success that has followed his efforts through the year. We have to recognize the fact, at the same time, that he had many earnest helpers, especially his industrious and genial Secretary, Dr. George Elliott.

The following officers were elected for the coming year: President, Dr. J. Milton Cotton; Vice-President, Dr. Bruce Riordan; Secretary, Dr. George Elliott; Treasurer, Dr. Edmund E. King, and on the Executive Committee: Dr. H. B. Anderson, Dr. S. Johnston, Dr. J. Malloch and Dr. H. J. Hamilton.

A New Hospital in Western Toronto

A number of the physicians in the Western section of Toronto held a meeting on March 14th for the purpose of establishing a Hospital in the West End.

Dr. J. W. Schmuck, Chairman of a committee previously appointed to draft a scheme of organization, informed the gathering that he had talked the matter over at length with Dr. Bruce Smith and other physicians, and all were in favor of the scheme. The several clauses of Dr. Schmuck's report were adopted. According to the first clause, it was considered that a corporation should be formed to carry out the undertaking.

A committee was appointed to take charge of the organization, composed of: Drs. J. W. Schmuck, J. E. King, W. A. Burr, Jno. Duncan, J. D. Webster, Clendennan, Kaylor, and Angus Campbell. The committee was recommended to put forward efforts to interest public-spirited citizens in the scheme.

British Medical Association Central Insurance Advance Bill

It will be remembered by our readers that the Insurance Bill was passed by the British Parliament in the latter part of the year 1911. Shortly after the passage of the Bill, a very remarkable meeting was held in the Queen's Hall, December 19th. There were present 2,000 doctors from all parts of the United Kingdom. Sir Watson Cheyne presided, and a large number of prominent physicians and surgeons were on the platform. A good deal of dissatisfaction was expressed at that meeting at the attitude of the Executive Committee of the British Medical Association.

About the same time the *British Medical Journal* advised caution on the part of the doctors of Great Britain. It stated that there were two different currents of opinion as to the policy which the profession should adopt. On the one side were the vast majority of the profession, who think that doctors should refuse to undertake any duties which the Bill proposed to assign to them. The other part, including the Council of the Association, thought that doctors should refuse to accept office under the Act until the much-talked-of "six cardinal proposals" had been definitely conceded.

We do not happen to know exactly the position of things at the present time. We know, however, that there were many negotiations between representatives of the profession and the Government; a certain number of concessions were made by the latter, and a large number of the physicians of Great Britain have accepted the situation.

After we obtain more information we shall return to this aspect of the very perplexed question, and give full particulars, so far as we can.

Below will be found a letter received from the Medical Secretary of the British Medical Association:

British Medical Association,
429 Strand, London, W.C.
February 15th, 1913.

CENTRAL INSURANCE DEFENCE FUND.

Dear Sir or Madam:—

You are doubtless aware that for the past two years the British Medical Association has been actively engaged in defending the interests of the medical profession in connection with the National Insurance Act, and that the campaign has been arduous and expensive. A Central Insurance Defence Fund was insti-

tuted, for which the Council is acting as Trustee, and a call on the guarantors of £1 per head for administrative purposes has realized some £15,000. But this is only about one-half of what has been spent in the active work of the campaign during the past two years. The rest has been provided by the funds of the Association; on which the strain has been severe. Another call is now being made on the guarantors, mainly for the purposes of compensating those who have lost financially through loyalty to the policy of the Association.

Encouraged by suggestions which have been made by one or two overseas branches, and by many colonial members, who have recently visited this country, the Council has resolved to give members of the Association resident outside the United Kingdom an opportunity of subscribing to the Central Insurance Defence Fund in order to defray the heavy expenses already incurred, and to refund to the Association some of the money which it has expended on this campaign. I enclose a form which I shall be glad if you will fill up and return to me with a donation to the fund in the form of a *Money Order payable to the British Medical Association*. If every colonial member would give the sum of £1, the amount thus realized would be not only a most acceptable sign of sympathy with the profession at home, but also a substantial and greatly-appreciated help to the fund. I may mention that the Durban Division, on its own initiative, has sent a donation of £50 to the Fund.

I am, yours faithfully,

ALFRED COX, Medical Secretary.

To Members of the Association outside the United Kingdom.

Personals

Dr. Allan Shore returned from a trip to the Pacific Coast, March 13.

Dr. R. W. Forrest, who practised for many years at Mount Albert, has removed to Toronto.

Dr. D. N. MacLennan, of Toronto, left for a five weeks' trip to Southern California on March 13th.

We are glad to announce that Dr. A. R. Pyne, of Toronto, is rapidly recovering health and strength.

At last accounts Dr. George McDonagh, of Toronto, was travelling among the South Sea Islands.

Drs. M. H. Embree and J. D. Loudon, of Toronto, have removed from Avenue Road to 89 Bloor St. West.

At the Annual Meeting of the United Empire Loyalists' Association, Colonel George Egerton Ryerson was re-elected President.

Dr. Wm. Oldright, of Toronto, who has been spending the greater part of the winter in the West Indies, is expected home in May.

Dr. G. W. Ross, of Toronto, visited Dr. Friedmann, in New York, March 7th, the day before the German physician departed for Montreal.

Dr. H. B. Yates, of Montreal, started for England, March 9th, and expects to travel around the world before returning to Canada.

Dr. Chas. E. Treble, Radiographer to Grace Hospital, has installed a modern X-rays equipment at his office, corner College Street and Palmerston Boulevard

Dr. J. Orlando Orr arrived at Gibraltar, March 14. From there he intended to go to Algiers, then to Monaco, Genoa and Naples, and then go north through Italy.

Dr. J. A. Robertson and his son, Dr. Lorne Robertson, of Stratford, reached Monaco, March 4th. They expected to sail from that place for Alexandria, March 5th.

The Durham Old Boys' Association held their fourteenth annual banquet, March 10th, in Toronto. Among those present were Drs. A. C. McKay, E. R. Hooper, Trebilecock, Gilmour, J. H. Elliott and R. H. Wilson.

M. J. Haffey, M.B., M.R.C.S. Eng., L.R.C.P. Lond., late of London and Vienna hospitals, desires to announce that he will begin the practice of the diseases of the eye, ear, nose and throat, at 152 Carlton Street, Toronto.

In connection with the research work of the Medical Faculty of the University of Toronto, the following have been appointed to carry on the work: Doctors C. Imrie, Fletcher McPhedran, R. G. Armour, and A. H. Caulfield.

Dr. R. W. Bruce-Smith, of Toronto, attended the annual meeting of the Victorian Order of Nurses at Ottawa, March 7th, and was honored with an invitation to luncheon by their Royal Highnesses, the Duke and Duchess of Connaught.

We offer our heartiest congratulations to Dr. W. Harley Smith, the efficient and popular Honorary Secretary of the Toronto Academy of Medicine, on his having been recently created a Chevalier of the Order of the Crown of Italy. Dr. Smith has been Italian Consul in Toronto for many years past, and has well earned this distinction.

The Management Committee of the Board, acting under the recommendation of Dr. Struthers, February 28, appointed three new doctors for the work of inspection—Dr. H. K. Bates, Dr. W. M. Ecclestone and Dr. A. S. Lawson. At the same time nine new nurses were added to the staff.

It was reported about the first of March that Prof. W. T. Connell, Queen's University, Kingston, would be appointed Medical Health Officer to Ottawa, at a salary of \$5,000 a year. Dr. Connell's admirable work in bacteriology and pathology in Queen's Medical Faculty, has been highly appreciated by the profession, the students and the public in Eastern Ontario. In the interests of the Medical Faculty we are exceedingly glad that Dr. Connell is likely to remain in Kingston, as we believe that Queen's University actually needs the two Connell brothers.

Obituary

DR. E. E. KITCHEN

AN APPRECIATION, BY DR. JOHN HUNTER.

Half a century, freighted with its cargo of placid or turbulent events, intervenes since the writer watched, with the keenest interest, the contests between two rows of the older pupils as they "lined up" for the Friday afternoon spelling matches held in a little frame schoolhouse at the intersection of two roads near the famous German Woolen Mills, from which this school, popularly known as the "German School," took its name. When a pupil failed to adjust the letters in any word according to the orthography of the spelling-book—no matter how absurd the conglomeration of letters might appear to be—he or she had to sit down, and the rival captain had the choice of the best "speller" from the depleted ranks of his opponent. A youth—physically and intellectually a stalwart—was often called, to and fro, a score of times before a contest was ended. This husky youth was known then as "Ed. Kitchen." He was always in with the finals, and often remained standing when the vocabulary of the spelling-book was exhausted. He came of fine stock. His ancestors were of German extraction and amongst the earliest settlers of the New England States. His father was one of the pioneers of the County of Brant, a very successful farmer, and thus able to give each member of his large family a good equipment for life. The late Dr. E. E. Kitchen entered the Normal School and obtained a first-class teacher's certificate. He then took up medicine, studied at the "Toronto School," and graduated from the University in the early "sixties." He settled in the picturesque village of St. George, County Brant, where for many long years he led the strenuous life of a very progressive physician and surgeon. Dr. Kitchen's splendid success in his vocation refutes the delusion that it is necessary, in order to keep abreast of the times in medical science, to live in the city, with its hospital facilities. The physician, whose unaided efforts challenge the respect and confidence of a large, intelligent, pro-

gressive rural constituency for forty or fifty years, is just as worthy of the "blue ribbon" for meritorious achievement as is the urban one who, in achieving his fame, has the help of the hospital staff, trained nurses, and, perchance, many flattering "press notices."

Dr. Kitchen, though richly endowed with a fine physique, a charming personality and literary and scientific culture of a very high order, resisted the "lure" of both city life and of politics. He could have acquired a large city practice or distinction in politics, but he gave unwearingly and of his best to the relief of suffering in the community in which he was born. Medicine in rural Ontario was enriched by his worth.

Dr. Kitchen's life should form a splendid object-lesson for every young physician, for it furnishes indisputable proof that it is the character of a man's ideals, and not his environment, that challenges respect and assures success.

Dr. Kitchen married Miss Annie Charlton—a schoolmate—who, to culture and refinement, added all those feminine graces that make home the most charmed spot on earth.

The writer extends sympathy, for it was his privilege to be a schoolmate of both. "Happy in life and blessed in death is the man who has got those near and dear to care for him and to mourn his loss."

THOMAS A. McDOUGALL, M.D.

Dr. McDougall, of London, Ont., died suddenly at his home on February 6th, aged 45. He graduated M.D. from the Western University in 1898.

D. W. FERRIER, M.D.

Dr. Ferrier, of 35 Leuty Avenue, Toronto, was severely injured February 20th by being crushed between a trolley car and a railing guarding an excavation on Queen Street East, near his home. He died from the injuries received, February 26th, aged 80. He was born in Markham Township, received his degree of M.D. from Victoria University, and practised for many years at Mount Albert.

JESSE E. WILSON, M.D.

Dr. J. E. Wilson died at his residence, in Rochester, Michigan, March 8th, aged 85. He was a twin brother of the late Senator Wilson, of St. Thomas, and practised in partnership with him in that city for something like fifty years. His brother, the Senator, died about six months ago.

CHAUNCEY E. COKE, M.D.

Dr. C. E. Coke died at Winnipeg, February 7th, aged 42. He was born in Waterford, Ont., and graduated M.D. from Trinity University, Toronto, in 1898. After a post-graduate course at Edinburgh and Glasgow, he commenced practice in Manitoba, near Winnipeg.

Book Reviews.

Principles and Practice of Obstetrics. By JOSEPH B. DeLEE, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School. Large octavo of 1,060 pages, with 913 illustrations, 150 of them in colors. Philadelphia and London: W. B. Saunders Company. 1913. Cloth, \$8.00 net; half morocco, \$9.50. Canadian agents, J. F. Hartz Company, Toronto.

It is unfortunate that a work so admirable and so valuable as Professor DeLee's "Principles and Practice of Obstetrics" cannot be properly reviewed in the space available in our monthly medical journals in Canada. The author, who is well and favorably known in all parts of North America, has given us a book on Obstetrics which is both scientific and practical. He shows in the work, in a clear and vivid way, the clinical aspects of all the subjects treated. This feature of DeLee's excellent methods of teaching during the last twenty-one years is clearly in evidence throughout the whole book.

The subject matter is divided into four parts: (1) The Physiology of Pregnancy, Labor and the Puerperium; (2) The Conduct of Pregnancy, Labor, and the Puerperium; (3) The Pathology of Pregnancy, and the Puerperium; (4) Operative Obstetrics. As to details, the author tells us that he constantly held in view the needs of the general practitioner and the student. He has succeeded very well in a way in both regards. We may say, however, that the students in Canada, as a rule, prefer some of the smaller text-books, of which there are many excellent ones available. At the same time we may add that it will be highly appreciated by those physicians who take a deep interest in the science and art of obstetrics.

Safeguarding the Special Senses. By HENRY O. REIK, M.D. Philadelphia, Pa.: F. A. Davis Company.

This is the title of a very instructive and readable book just issued. The work is divided into three sections: (1) Eye; (2) Ear; (3) Nose and Throat. It is brimful of very sane advice regarding the care to be taken of these organs of special sense. It is written in a style quite easily to be understood by the lay-reader, and we strongly urge its being placed in every school library, nurses' library, and physician's as well. Such a book is very much needed, and should prove of great benefit.

Electricity in Diseases of the Eye, Ear, Nose and Throat. By W. FRANKLIN COLEMAN, M.D., M.R.C.S. (Eng.); Ex-Professor of Ophthalmology in the Post-Graduate Medical School of Chicago, etc., etc.

As the author says, literature on this subject is comparatively scarce, and we must congratulate him on having brought out a work so readable, practical and instructive. Part I. deals with the physics of electricity, and gives us a good working basis to more intelligently understand the succeeding chapters. Part II. deals with the therapeutics and technic of application of electricity.

Each of the special organs is treated in turn, and their diseases, with treatment, carefully considered.

The author submits hundreds of clinical cases to show the treatment and its results. The results in some cases are quite remarkable, when we remember the prognosis usually given in such cases.

Those of us who had the pleasure of listening to Dr. Coleman's address given before the Section on Ophthalmology and Otology will read his work with a great deal of pleasure and profit.

New Aspects of Diabetes. Pathology and Treatment. By PROF. CARL VON NOORDEN, Professor of the First Medical Clinic, Vienna. Lectures delivered at the New York Post-Graduate Medical School and published by their authority. New York: E. B. Treat & Company. 1912.

We have been pleased to receive in book form this series of lectures which were delivered by Professor von Noorden at the New York Post-Graduate Medical School last autumn. The work which has been done on diabetes and problems of metabolism in general during the past few years, both on this Continent and in the European clinics, has been enormous, and it has been no easy task for one to attempt to keep pace with all the advances which have been made.

These lectures are very clear and concise and give one many new ideas on an old subject. We do not propose to go into the details of the problems discussed. The book should be read to be appreciated. We believe it to be one of the most interesting monographs which has appeared recently.

Selections.

The Interval between the First Attack of Cholecystitis and the Symptoms of Cholelithiasis

Bettmann has an able article on this topic in the *Lancet-Clinic* for January 4th, 1913. He says that it is exceedingly probable that a catarrhal cholecystitis is in nearly all cases the actual forerunner of the precipitation of the cholesterin, the calcium salts and the other constituents of the gall-stones, and there is sufficient evidence to warrant the maxim—No cholecystitis, no gall-stones.

Cholecystitis is not adequately described in most text-books. The milder attacks are usually overlooked in practice, or are mistaken for attacks of acute gastritis or "spoiled stomach." Nevertheless, it is an exceedingly common disease. The clinical history resembles that of a subacute gastritis, but careful physical examination will reveal tenderness in the gall-bladder region, and the expert may often find a soft, distended gall-bladder, very sensitive to bimanual manipulation. This sensitiveness of the gall-bladder may persist for a while after the clinical symptoms have passed away. Some of the older clinicians described sharp attacks of cholecystitis under the misnomer of acute hepatitis.

If the infecting germs remain in the gall-bladder for months after the primary attack, or if a mild grade of catarrhal cholecystitis persists, the patient will probably become the victim of gall-stones. The stones may not at first lead to symptoms, or they may in fact remain during the entire lifetime of their possessor. Very frequently they give rise to typical symptoms of cholelithiasis months or years after the initial attack of cholecystitis has been forgotten. Very little mention is made in the text-books of this interval between cholecystitis and cholelithiasis; yet that a definite lapse of several months occurs in nearly every case is practically certain.

The future health of the patient may, therefore, be said to be determined in most cases by the care which he exercises in the few months following the first attack of cholecystitis. *The control of the situation then lies entirely in the province of the general practitioner.* The specialist sees the cases only when the symptoms have become chronic, or when complications have arisen. But the family physician must learn to recognize even mild attacks of cholecystitis when they occur, and must regulate

the dietetic habits of his patients for months after the attacks have subsided. This will require clear thinking on the part of the practitioner: and plain talking. It is not improbable that the formation of gall-stones can be prevented in very many instances after the initial attack of cholecystitis. Many authorities believe in the value of urotropin as a gall-bladder disinfectant. Salicylic acid, eunatrol, bile salts, sodium succinate, and other remedies are highly valued by competent observers.

The use of Glauber's salts, or salines of the Carlsbad type, may be extended over a period of many months. Warm saline enemata are often useful. The avoidance of greasy or acid foods, alcoholic beverages, and indigestible articles must be insisted upon. Hygienic living may be rewarded by a subsidence of the catarrhal inflammation, by the disappearance of germs from the biliary passages, and the gradual restoration of the individual to perfect health.

With these conclusions most of us may agree.—*The Universal Medical Record.*

The Wassermann Reaction and Syphilis

It is, of course, almost heretical to say so, but there is no doubt that the asserted value of the Wassermann test, whether as a means of diagnosis or as an indication for treatment, is not, at the present moment, being maintained. In England, with the exception of the powerful criticisms uttered by Sir Henry Morris, little has been said in its depreciation. But abroad there are indications arising of a cloud which, though at present no bigger than a man's hand, is evidently destined shortly to cover the sky. Reference to our abstracts for the last few months will give some notion as to the nature of the doubts that are stirring men's minds; but an evident tendency is for the positive result to be accorded, as Jesionek suggests, merely symptomatic importance. Even the staunchest adherents have given way, perhaps more than they have realized, in admitting the use of non-syphilitic antigen, and in agreeing that the reaction itself is a group reaction, and, even so, quantitative rather than qualitative in essence. As a guide to treatment in advanced or old cases, the test seems of little value, for "latent" cases of long-standing syphilis that are undoubtedly benefited by mild and intermittent treatment do yet give a negative result only too often. The procedure will, of course, like the Widal and other reactions, in due time have its proper importance allotted to it; but for the present

it may be said that the wisest clinicians are they who, when in doubt, follow their accustomed methods, and do not suffer themselves to be diverted therefrom at the behests of the serologists. It is fair, however, to refer to a judicious paper by Mr. D'Arcy Power, that may be found in the *British Medical Journal* (1912, II., p. 1605). Mr. Power, who still recognizes the limitations of the test, is, nevertheless, willing to admit that he now finds it of greater value than he was once inclined to expect.—*The Universal Medical Record*.

The Treatment of Heart Disease in Children

Maekenzie in the *Lancet* of January 4, 1913, writes of some manifestations of a healthy heart in the young which were frequently taken as indications for treatment. He said that as a first step to treatment it was necessary to have a clear idea of what one is going to treat, and the significance of this was brought out by considering what was the essential purpose of a medical examination. This was to determine the prognostic significance of certain phenomena and their bearing on the presence or likelihood of heart failure. It would be shown that this purpose frequently failed in dealing with such phenomena as irregular action of the heart and murmurs. The absence of reliable data had hitherto militated against the obtaining of a prognosis based on trustworthy grounds or a basis for an intelligent therapy. A description was given of the means by which this deficiency could be made good, and was illustrated by recent observations on the mechanism by which certain irregularities were produced and their prognostic significance. The bearing of a functional murmur on the heart's efficiency was discussed, and it was shown that certain irregularities and functional murmurs were perfectly compatible with healthy hearts. The relation of functional murmurs to heart failure was considered, and attention was drawn to the fact that the cause of the murmur was not the cause of the heart failure, but that the heart failure was invariably due to the impairment of the heart muscle.

The means by which impairment of the heart muscle could be detected was shown in many cases to depend not so much on the physical signs as upon the due appreciation of the functional efficiency of the heart muscle. The signs by which one could recognize the functional efficiency of the heart had not received that consideration which was their due, and it was on this account, and also on account of the imperfect teaching of cardiac

symptomatology, that a mistaken conception of the meaning of these phenomena was so widespread. Evidence of these misconceptions drawn from personal experience was offered, showing how normal phenomena had been taken as indications for treatment, and as a consequence how cardiac therapy had become burdened by many useless drugs and methods.—*Therapeutic Gazette*.

Prognostic Significance of Albumin and Casts

Dr. C. N. McCloud says that the most puzzling as well as interesting problem in insurance is the prognostic significance of urinary albumin and casts. A study of the literature on the subject is very confusing for authorities differ a great deal in their conclusions in the matter. The presence of albumin in the urine has been regarded as a sign of kidney disease by layman and physician since the time of Bright, in spite of much evidence to the contrary, for albumin may be absent in kidney disease and be present without it. The following may be included among "innocent" albuminurias: (1) Paroxysmal or cyclic albuminuria; (2) Dietetic albuminuria; (3) Albuminuria after exertion or cold; (4) Simple persistent albuminuria; (5) Postural or orthostatic albuminuria; (6) Climatic changes causing albuminuria; (7) Alimentary albuminuria (Crofton).

1. Paroxysmal albuminuria is marked by a large quantity of urine, few or no casts, and a regular rise or fall in the amount of albumin during the twenty-four hours. Albumin begins to appear soon after rising, increases during the day, falls on going to bed, and disappears at night to reappear the next morning. Young males are most liable to this condition, and are usually anæmic, suffer from headaches, neuralgic pains, languor, etc. The differential diagnosis between this form of albuminuria and real nephritis may be very difficult, and doubtful for months.

2. Dietetic albuminuria occurs in children and adults, the amount of albumin being small with few or no casts. It may follow the ingestion of certain foods, eggs or cheese, for instance. If this albuminuria is temporary, the prognosis is good; if it persists, the patient is to be regarded with suspicion.

3. Albumin may appear after severe and prolonged exertion, such as marching, boxing, wrestling, etc. Usually the amount of albumin is considerable and numerous casts are present. Congestion of the kidney is the usual explanation. Repetition of such

Coffee Drinking Dissipates Energy

Any article of diet taken into the economy which acts as a "whip" to flagging energy, is but temporary in its *apparent* benefit. In the end, it *subtracts* from the *total energy* of the individual. This, in the case of Coffee, is a manifestation of the law of alkaloidal "action and reaction;" caffeine being the alkaloid in coffee.

The temporary *feeling* of increased energy, after having taken the usual cup of coffee (or two cups) is, in a large majority of individual cases, soon followed by a feeling of lassitude which more than counterbalances the temporary "spurt" of *artificially* aroused activity of mind or body. Hence, we may truthfully affirm, that in summing up its effect, coffee drinking dissipates energy.

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congestion might be followed by the development of true nephritis.

4. Simple persistent albuminuria means the presence of small quantities of albumin for years, usually not at all hours of the day. Few hyaline casts may be present; both they and the albumin may disappear after rest. One should feel anxious about such persons, as sooner or later they may develop chronic interstitial nephritis or endarteritis.

5. Many writers agree that there is no real postural albuminuria but that this is simply a characteristic of certain albuminurias of organic or functional origin.

6. Sudden changes of temperature have some effect upon the activity of the kidneys and albumin may appear during the extreme temperatures.

7. Alimentary albuminuria. Dr. Crofton has shown that whenever undigested albuminous food remains for a long time in contact with the gastrointestinal mucosa a portion of the native albumin may be absorbed into the circulation and promptly excreted as a foreign proteid. This may occur in motor insufficiency of the stomach, in certain intestinal indigestions, in hepatic insufficiency of marked degree, in rectal feeding with certain proteid foods, after ingestion of large amount of albuminous foods, etc.

Prognosis in all such types of albuminuria is very difficult because but few patients have been followed for years. Barringer has followed 396 men who showed albumin at the time of insurance and found ten years later that of the "albumin group" four died, of the "albumin and hyaline casts group" thirteen died, of the "albumin and granular casts group" eight died. Altogether there were twenty-five deaths as contrasted to sixteen that could be expected, if the men were normal and sound in every particular. Barringer also showed that the incidence of tuberculosis among people with albuminuria seems to be very much higher than among the rest of the population. The albuminuria must therefore be looked upon as a sign of lowered resistance, at least, if not a very early accompaniment of an existing tuberculous infection. In determining the prognostic significance of albumin in an applicant, other features must be carefully examined, especially the condition of the heart (enlargement) and of the blood vessels (sclerosis), and the blood pressure. The amount of urine passed in the twenty-four hours and the specific gravity should be ascertained. These points may help one to exclude cases of chronic nephritis but the significance of albuminuria will

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not be cleared up until more statistical and clinical knowledge is at hand. Collective investigations of several insurance companies will probably throw much light upon the matter. In conclusion it may be stated that all applicants with albuminuria should be regarded as substandard risks and an increased premium should be demanded from them.—Proceedings of the Second Annual Meeting of the Medical Section of the American Life Convention.—*Medical Record*.

Cutaneous Tuberculin Reaction in Children

Lapage (*Brit. Journ. Children's Diseases*) finds that the reaction is specific, and, generally speaking, is given by all patients infected with tuberculosis. The subcutaneous method gives a higher percentage of results than the cutaneous, but for practical purposes the latter is to be preferred. Tuberculin prepared from human tubercle bacilli should be used, since the results obtained from bovine tuberculin are not so satisfactory. A positive reaction gives one no information as to whether the disease is active or passive, and in an apparently healthy person need not bear any sinister interpretation. A negative result may follow the test in children infected with tuberculosis, if the disease is advanced, if there is cachexia, if the disease is very acute, or in cases of mixed infection complicated by acute disease. A single negative result is not of much value, for a repetition of the test was found to increase the positive results by about 28 per cent. The difficulty of making a diagnosis of occult tuberculosis increases after the patient has passed two years of age, but in young children, as a method of indicating tuberculous illness, the test is of the greatest value. As judged by the cutaneous test on children attending at a hospital, tuberculous infection occurs in 32 per cent., up to the age of two years, from two to five years in 51.2 per cent., from five to ten years in 60 per cent., and from ten to fourteen years in 60.8 per cent. Even in cases negative to clinical examination infection occurs in 14.7 per cent. up to the age of two years, in 31.4 per cent. aged from two to five years, in 30.7 per cent. aged from five to ten years, and in 51.2 per cent. aged from ten to fourteen years. In other words, at the end of the school age between 50 and 60 per cent. of children have become infected with tuberculosis, even among those who appear to be healthy on clinical examination.—*Med. Press and Circular*.



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Miscellaneous

In addition to the medical practices offered for sale by the Canadian Medical Exchange Office, to be found among our advertising pages each month, Dr. W. E. Hamill, who conducts the above Exchange Office, wishes us to state that, inasmuch as these offers can only necessarily appear once a month in our publication, that in future he will present interim offers each week, on Saturdays, under "Business Chances" in the "*Toronto Globe*," thus enabling those interested to keep a better tally on his offers and to secure quick results and a short cut to the goal desired. His sixteen years' experience as an exclusive Medical Broker has enabled the Doctor to perfect a system whereby Vendors and Vendees are brought together, which the profession will quickly perceive and take advantage of when desiring either to sell out or to buy. Office 75 Yonge Street. Hours 11.00 a.m. to 5.00 p.m.

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Therapeutic Remarks on Diabetes Mellitus

In the treatment of Diabetes Mellitus we distinguish between remedies for the disease itself and for complications which may arise. Within the last few years numerous preparations, promising a complete cure, have made their appearance, but none of them have been able to reduce and even eliminate sugar secretions as effectively as *Sanol's Anti-Diabetes*, a remedy which, only within the last year, has been put on the market in this country. This preparation is successfully applied in cases where sugar remains in spite of a diet free of carbo-hydrates. Experience has proven that this remedy has caused no bad effects whatsoever. Of course, an improvement without a strict observance of the diet regulations cannot be expected; but as this remedy is perfectly harmless, and has been used with excellent results, it should be tried in every case of diabetes. After a course of from five to eight weeks, during which time the strict diet has gradually been changed to a mixed diet, the toleration of carbo-hydrates will be noticed, and this favorable condition will remain even after the remedy is taken at longer intervals, to be finally dispensed with altogether.

Diabetics of advanced age, who show symptoms of arteriosclerosis and arthritis, have derived great benefit from the continued use of *Natr. Jodat.* with *Natr. Salicyl.*, taken in connection with *Sanol's Anti-Diabetes*.

There is doubtless a close relation between diabetes arteriosclerosis and arthritis. Many a case of Diabetes affecting the aged may be explained by arthrosclerotic changes of the vertebral and basilar arteries, which are near the medulla, and their small branches supply the floor of the fourth ventricle, in which C. Bernhard found the diabetic centre. The above medication was useful in arthritic patients as well as in the sclerotic. Swelling of the joints disappeared notably thereby; the somewhat sclerotic antecedents in the arteries of the medulla were likewise influenced, and thereby the cure of diabetes was brought about.

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Prevalence of the Heroin Habit

Heroin, which is derived from morphine, is so frequently employed in the treatment of various diseases that the question of formation of habit from its use is a serious one. It is often prescribed for cough, the result of irritating conditions in the air-passages, and physicians not infrequently tell their patients what drug they are prescribing, so that indirectly the patient comes to look on heroin as a harmless remedy for his cough. Even physicians are not sufficiently alive to the danger of habit from its use. In one instance a patient told a physician, who was called to treat him for an attack of laryngitis, not to give him anything that contained opium, because he had formerly been a slave to this drug. The physician replied: "I will give you some heroin; there is no danger of habit from that." This the patient took, with the result that the latter had as much difficulty in breaking away from the heroin as from the opium habit.

Some patients who are addicted to the use of morphine substitute heroin because it is easier to obtain. A further reason for the use of heroin is that firms advertising preparations containing this opium derivative call attention to its harmlessness. In a recent issue of *The Journal of the American Medical Association*, Dr. John Phillips, of Cleveland, calls attention to the fact that heroin is being used extensively by means of "snuffing," in the tenderloin districts of large cities. One patient said he knew at least twenty of his associates who used the drug in this manner. The dangers of this practice should be known, as the heroin habit is just as bad as the morphine habit.—*Ohio State Medical Journal*.

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The Misuse of Enemata

The routine use of soap and water enemata prior to operations, especially those upon the abdomen, is a procedure sanctioned by custom and authority. Whether such administration be altogether wise has been seriously raised by Mr. Charters Symonds, whose thoughtful remarks upon the question deserve the most careful consideration. The chief objection to the giving of an enema just before a grave operation is the distress and discomfort which are so frequently produced thereby just at a time when the greatest possible repose of mind and body is required. Actual harm from such an accident as the forcible rupture of a pelvic abscess by mechanical violence is, it is acknowledged, rarely a consequence of the administration of a purgative enema by a skilled nurse, but the advisability of injecting fluid against powerful attempts at expulsion is questioned. In cases of rectal stricture, for instance, very little, if any, fluid passes beyond the obstruction, so that the enema can only act by "irritation," leading to an increase of secretion higher up the bowel, whereby further distress is produced. Spontaneous relief may follow, it is true, and a certain advantage is claimed from the absorption of water when the enema is retained. Nevertheless, many cases are met with in which the use of enemata, combined or alternated with aperients, fail to give that relief to the patient which a little timely rest to the overworked bowel would ultimately secure.—*Medical Press and Circular*.

X-Ray Localization of a Focus of Pulmonary Gangrene

Béclère has brought before the Société de Radiologie médicale de Paris (*Bull. et mém.*) a case in which a focus of pulmonary gangrene was revealed radioscopically in a bronchitic subject. The fluorescent screen placed in front of the thorax revealed at the pulmonary hilum a shadow, the contours of which were rather indistinct, while at the centre was a little horizontal line surmounted by a transparent area. The appearance was suggestive of a collection of pus with gas above. On shaking the patient, the phenomenon of the Hippocratic succussion, clear, though slight, was obtained. An examination from the back showed the contours much more clearly, with the line of liquid more strongly marked. It appeared, therefore, that the lesion was nearer to the dorsal than to the anterior region. By examining in different directions, the shadow of the focus was

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enabled to be dissociated from the shadow given by the vertebral column, and the matter was clinched by an examination in the sagittal position, which showed the focus to be well in the rear. A second radiosopic examination was made five days after the first, and, the lesion being more accentuated, it was determined to operate. Under radiosopic and radiographic guidance, the operation was completely successful, and the cavity drained.—*B. M. J.*

Disinfection of the Hands and Field of Operation

Ozaki (*Deutsche Zeitschrift für Chirurgie*), after having experimented with various methods of disinfection of the hands and site of operation, concludes that the use of pure alcohol as advised by von Brunn, and acetone-alcohol after the method of von Hierff, is very simple, moderately quickly carried out, and is not hard on the hands of the operator, but is suited only to brief operations, as the effect is soon lost through the moistening of the parts in the course of the operation. The best rapid method of disinfection is certainly the tannin-alcohol method of Zabłudowski and Tatarinow. It is true that the results of this method directly after the disinfection are not very favorable, nor are the results very lasting, so that it is to be used in lengthy operations only when they are of a very urgent character.

After painting the skin with iodine there is within a minute such a reduction in the number of germs as can scarcely be obtained by any other method. In the course of five minutes the number of germs is only slightly less than directly after the application. The application of iodine followed by washing with alcohol, acetone-alcohol, or thiosulphate-alcohol, produces as good a result as is accomplished after prolonged soaking and washing of the skin. The rapid disinfection of the hands with tincture of iodine and thiosulphate-alcohol is not suited for daily and general use because of the irritation it produces in most persons. Two applications of tincture of iodine to the site of operation is so much better than the single application as to make its use advisable for careful disinfection in parts where the skin is not too tender. Mechanical cleansing of the skin with soap and brush results in removal of the greater part of the superficial germs which are incorporated with the dirt, but has little influence upon the deeper lying germs. The tannin-alcohol preparation exercises its influence in large measure through hardening the

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This form of administering the Formates is one largely in vogue for increasing tone in those who go in for physical exertion, such as athletes and men who are very actively engaged, who are merely run down and not suffering from any illness, but require a sharp tonic. The Formates are also useful in the treatment of Chronic Rheumatism.

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—*British Medical Journal*

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germs which cannot be removed. With the exception of the iodine and the tannin-alcohol, the best procedure consists of the hot water and alcohol disinfection after the method of Ahlfeld. This is not deleterious to the skin, is simple, and requires only a relatively short time for its performance.—*Therapeutic Gazette*.

Increase of the Drug Habit

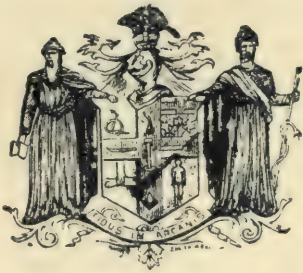
Public attention has been called lately to several cases of death from the use of veronal, and the evidence seems to show that this drug is largely used for the purpose of inducing sleep. Others, such as sulfonal and trianol, are doubtless also employed, although the restrictions which were placed on sulfonal, by placing it under Part II. of the Poisons Schedule, may have led to abatement in its use. Equally, if not more, common is drug-taking on account of headaches and pain, and for these a large class of remedies is available, some of them sold under trade names, and others not. They include such drugs as phenacetin and antipyrin, especially the former, also the various preparations of opium, morphia and cocaine. The drug known under the name of aspirin is enormously used by the public for aches and pains of all sorts. It may be pointed out that in a good many cases the abuse, and the results which follow, have their beginnings in a more or less innocent way, very often from the relief obtained in the prescription of some drug by the medical man, and the prescription, being at the disposal of the patient, it is simply a matter of having it repeated until the habit is induced. It is very much to be deplored that prescriptions containing any drug which is liable to abuse in this way, should be retained by the patient, and this has over and over again been urged in professional quarters.—*The Medical Magazine*.

The Treatment of Chronic Eczema by Heat

J. Tóth (*Berl. klin. Woch.*) has made personal experience of the beneficial effect of a thermic treatment of eczema, and recommends this method very warmly. The first application should be that of radiating heat. The affected part is exposed to the heat of an open fire, oven, or other source of heat, and the temperature acting should reach from 100° to 115° C. The part is slowly

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moved in front of the source of heat until the intolerable itching has either moderated considerably or leaves off altogether. The procedure is to be repeated three times a day. Later it is only required twice, then once a day, and, lastly, it need only be applied once in two or three days. The next procedure is the application of moist heat. Four or five litres of water are brought to boiling on a stove; a handkerchief or piece of linen is folded four or five times and dipped into the water. As soon as the excess of water has run off, the cloth is applied gently and rapidly to the affected part. As soon as the skin accustoms itself to the heat, the handkerchief may be applied more firmly and hotter to the skin. Acute eczema with scabs, etc., yield to this form of treatment in about five or six weeks. During the healing the itching can be kept within bounds and sleep can be assured at night. After a pause of several weeks it is necessary to begin over again, as recurrences nearly always take place. In spite of the very long time required for the treatment, the author believes that the results are better than by chemical means.—*B. M. J.*



The College of Physicians and Surgeons of Ontario



Territorial Election Division No. 17

Nominations for a Representative to the Medical Council to fill the vacancy caused by the death of Dr. J. W. Lane, of Mallorytown, will be received by the Returning Officer up to the hour of two o'clock P.M., on Tuesday, May 13, 1913.

If more than one candidate is nominated, an election will take place.

The last day for receiving voting papers will be Wednesday, May 28th, 1913, at two o'clock P.M., after which hour the vote will be counted.

Returning Officer,

DR. A. J. MACAULEY, Brockville, Ont.

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The Canadian Practitioner and Review

Vol. XXXVIII. TORONTO, MAY, 1913.

No 5

Original Communications

RADIUM IN DERMATOLOGY *

BY DR. W. H. B. AIKINS.

Consulting Physician, Toronto General Hospital, Toronto Hospital for Incurables,
King Edward Sanitarium, etc., etc.,

In collaboration with

F. C. HARRISON, B.A., M.B.

Assistant in Pharmacology, University of Toronto; Physician Toronto Hospital
for Incurables.

Radiation in some form or other has formed a branch of therapeutics for some considerable time, X-ray treatment representing the earliest variety. The radio-active rays are now chiefly used, usually proceeding from radium itself, but occasionally from synthetic radio-active products, and the recent improvements in technique, both in simplicity and adaptability, have resulted in increased facility of application, and thus greatly added to the value and scope of this form of treatment. In estimating the value of radium treatment it should always be remembered that each case should be judged on its own merits, and careful consideration given to the variety of lesion present, its site, extent, and the greater or less susceptibility of the tissues to the action of the rays.

The employment of this method of treatment in dermatology dates from 1906, when the *Laboratoire Biologique du Radium* was established in Paris with the object of developing radium treatment, from a scientific, educative and philanthropic point of view. From this date onwards Wickham and Degrais carried on extensive investigations, the results of which demonstrate

*Read at a meeting of Ottawa Medical Society, January 10, 1913.

conclusively its value in the treatment of many diseases of the skin, and indicate the possibility of its occupying a still more prominent position in this connection in the future.

For convenience one may roughly classify the various conditions of the skin in which the use of radium is of service into:

1. What the French call "Dermatoses," a term which includes the eczemas, psoriasis, pruritus, etc.

2. Inflammatory and parasitic conditions such as acne vulgaris, ringworm sycosis, lupus vulgaris.

3. The vascular new growths—*nævi* and *angiomata*.

4. Other new growths, benign and malignant, such as warts, moles, rodent ulcer, epithelioma, sarcoma.

Analgesic Action of Radium.—Owing to the analgesic and decongestive properties of the radium its beneficial effect is very marked in pruritus ani, and considerable relief is also given in pruritus vulvæ and pruritus of the scrotum. The obstinate resistance of many cases of pruritus to all ordinary methods of treatment is well known, but radium has given extraordinary results, the improvement in some instances being apparently permanent. The intolerable itching ceases within one or two days after irradiation, and Wickham and Degrais report two cases in which cure has persisted twelve and fifteen months respectively, Bareat, one which has been without recurrence for three years, and two which have remained cured for one year and eight months respectively. We can also report good results from the use of radiferous pomade in pruritus ani.

The analgesic action of radium also influences the severe pain which is often associated with herpes zoster. In such cases heavily screened plaques, applied for many hours in succession, are used to influence the deep branches of the nerve, whilst slightly screened plaques, applied for shorter periods, produce the desired effect on the superficial terminations of the nerve. Many cases are reported in which great relief was experienced within a few days after this treatment.

Eczema.—It has been demonstrated that radium has an action on the sensory, motor and trophic functions of the nervous system, and it is therefore obvious that it ought to exert a beneficial influence in eczema, which is characterized by trophic and sensory disturbances. It has naturally only been employed in obstinate forms of this condition, with the result that they have often been relieved when all other measures have failed. In chronic dry eczema great success has followed the applications for short periods at a time of plaques of a low degree of radio-

activity, the intolerable itching, which is such a troublesome symptom in this disease, being usually relieved within a short time after the commencement of the applications. If there is not manifest and definite improvement within three weeks it is advisable to give another course of treatment, increasing the duration of the exposures. Wickham and Degrais, in their latest publication, state that they have treated about two hundred cases of chronic eczema, associated with lichenification, in this manner, and that the results have almost invariably been favorable. Bayet also reports 42 cases, 41 of which were successful. The decongestive and analgesic properties of radium are of special service in relieving the symptoms in this condition. Repeated applications of an unscreened plaque for five minutes at a time, are sometimes very useful in cases of acute eczema, with a tendency to recurrence. In chronic weeping eczema irradiation cannot be performed with equal facility, but in spite of this many successful cases have been reported, in some of which the eruption has not reappeared for a year or more after the cessation of the treatment. The prognosis is most favorable in the localized forms. Toiles of a low degree of radio-activity may give as good results as the stronger apparatus, but they cannot be applied with equal facility in the irritable and weeping form of eczema as in the dry variety. In all cases of eczema in which radium treatment is employed it is advisable to combine with it the ordinary local and constitutional treatment of the condition.

Radium has also been utilized in a few cases of eczema in the form of a pomade, which is applied with the object of relieving the inflammation and pruritus.

As an example of the favorable action of radium in this condition we may cite the following case which we have had under observation:

A gentleman, aged 51, had suffered for years from eczema of the exposed parts of the body, and the skin on the face and hands was quite thickened and caused him constant irritation. He had employed all manner of local and internal medications. Twenty minute exposures of a radium plaque were given over the affected area. He was seen again in three weeks. The irritation was much less, but the thickening of the skin was still present. The same exposure was repeated. About two weeks later he had an acute exacerbation, and the skin was very red, irritable and formed vesicles at several points. During this acute attack he received three minute exposures to a plaque. When the acute

inflammatory process had subsided the skin gradually lost its chronic thickness and in a short time was quite normal in appearance, and has occasioned him no discomfort since.

Psoriasis.—Psoriasis has been very successfully treated by radium, either alone or in combination with other methods of treatment, and in some cases it may succeed where the X-rays have proved ineffectual. In dealing with obstinate patches the most suitable form of apparatus is the naked plaque, applied for short periods at a time. The scales are generally loosened, and fall off in from eight to ten days, the slight residual stain rapidly disappearing. When the eruption is on the face a thin aluminium screen should be used in order to prevent pigmentation. As a rule radium therapy is indicated in the forms of psoriasis associated with pruritus. In some cases very weak doses may relieve this symptom, and anti-pruriginous treatment may therefore be beneficial even in the most extensive cases. Retrogression and finally complete disappearance of the eruption may be expected in from six to eight weeks after the commencement of the applications, but unfortunately with this, as with all known methods of treatment of psoriasis, recurrence is very likely to take place. In spite of this, however, the great relief afforded by even a temporary cessation of the intolerable pruritus and irritation render the treatment justifiable in every case of psoriasis.

Lupus Erythematosus.—Radium therapy constitutes a comparatively new departure in the treatment of this obstinate skin affection, and it frequently proves successful when other methods have failed. In this condition, as in lupus vulgaris, Wickham and Degrais recommend fairly large doses, and that in all cases the applications should include from two to three millimetres of tissue outside the apparent limit of the lesions, in order to obviate as far as possible the possibility of recurrence. A combination of irradiation with other forms of treatment usually gives the best results, although several cases are reported which were cured by radium alone. Wickham and Degrais have had good results from the injection of radium bromide in one case, but this appears to be an isolated instance.

Bareat recommends (*Precis de Radiumtherapie*, Paris, 1912, 148) that in cases with but slight infiltration the doses should not be sufficiently large to entail any ulcerative reaction, whilst in those associated with extensive infiltration much stronger doses should be employed. In his experience irradiation has resulted in improvement in all instances, and in complete success in many cases.

Granulosis Rubra Nasi.—This condition, which is characterized by diffuse congestion of the extremity of the nose, is extremely refractory to treatment, but Barcat reports excellent results in two cases from the employment of radium. In both cases after the first application of the rays, which lasted for half an hour, there was a temporary reaction, but the favorable results were very obvious in six weeks and two weeks respectively, subsequent treatment producing a complete cure.

Hypertrichosis.—Owing to the facility with which they can be applied and the slight degree of inconvenience experienced by the patient, the radium rays, when applied with suitable precautions, afford a convenient method of destroying the superfluous hair, which is sometimes such a disfigurement to a woman. A light lead screen covered with paper should be used, the exposures lasting from two to three hours, with intervals of twelve to fourteen days between each exposure. By this method the hair follicles will be destroyed without the drawback of the excessive irritation, in some cases pigmentation, which may result from exposures of shorter duration to unscreened plaques.

Acne Rosacea.—This condition which causes great disfigurement, usually affects the nose, chin and cheeks, and in dealing with it radium therapy is very often efficacious and gives permanent results, these results being evidently and pre-eminently due to the decongestive action of radium. It is not infrequent for obstinate cases of the disease, which have proved refractory to all other measures, to be cured after exposure to the radium rays for a short period. Owing to the fact that the eruption usually appears on the face the greatest care should be taken to avoid residual disfigurement. With this object the plaque should be covered with a light aluminum screen and from five to ten sheets of black paper, the exposures should be of short duration, and the applications should not be given too frequently. It is well to employ in some cases doses of sufficient strength to produce an erythematous or erythemato-pityriasic reaction. In spite of the temporary accentuation of the redness, due to this reaction, the acneiform eruption rapidly retrogresses, and on the cessation of the reaction the area appears decongested and normal. It is only in rare cases that the result is not successful, and in the majority of instances the beneficial effects are fairly permanent.

Hypertrophic rosacea or rhinophyma which may be found unassociated with acne of the rest of the face is a permanent hypertrophy, the nose is bulbous and the affected parts are irregularly

mammillated and covered with blood vessels. This condition which hitherto was only amenable to mechanical measures can now be treated successfully with radium.

Acne Vulgaris and Acne Keloid.—Chronic cases of acne vulgaris, particularly those associated with considerable scarring, may be treated in a similar manner with good results.

Acne keloid is usually situated on the nape of the neck, and the difficulty of permanent cure of these tumors by surgical operations is recognized by all surgeons. As a rule recurrence takes place, the tumor frequently being more voluminous than that removed by operation. Electrolysis and scarification are successful in a few cases, but very prolonged and painful treatment is invariably required. Radium applied by means of plaques, appears to be particularly appropriate to the treatment of obstinate cases of keloid acne. This fact is attributed by Wickham and Degrais to the special receptivity of the keloid tissue and to the influence of radium on the pilo-sebaceous glands. It produces immediate destruction of the hair and glands, and thus prevents recurrence of the keloid tumor. In their latest publication they stated that they have treated some hundreds of cases in this way, with more or less marked improvement in every instance, and in the majority of cases complete disappearance of the tumor. Recent keloids sometimes disappear in from six weeks to two months. Although some of these cases are of long standing there has not been a single recurrence, which is the more remarkable when one takes into consideration the fact that such tumors almost invariably recur when treated in any other manner. In a few cases they have combined radiation with surgical extirpation, and they report one case in which a tumor had recurred four times after operation, but after the fifth operation, which was followed by radiation, there has been no recurrence, although the case is of several years' standing. We have had also a most excellent result in a case of acne keloid on the neck of a young man who had suffered from the affection for six years.

Parasitic Diseases of the Skin.—These include sycosis of the beard, and ringworm of the scalp. Sycosis represents a localised folliculitis affecting the beard or moustache, and due to the presence of staphylococci in the pilous follicles. Both the X-rays and radium are beneficial in this condition, as well as in ringworm of the scalp, the lesions disappearing within two or three weeks after the commencement of radiation. Only short applications of unscreened plaques are required. If sycosis has reached the stage of deep involvement of the cutis, together with

hypertrophic dermatitis, it is necessary to obtain depilation by means of the ultra-penetrating rays, care being taken not to destroy the hair follicles permanently or to produce sclerosis of the skin.

Lupus Vulgaris.—Radium was first employed in the treatment of lupus by Dr. Danlos. Wickham and Degrais report two cases in which excellent results were obtained from the use of radium alone (*Le Radium dans le Traitement du Cancer*, 1913, p. 82).

Experience indicates that the rays have no selective action in this class of case. They recommend the employment of sufficiently large doses of radium to produce a certain amount of destruction, with protection of the neighboring healthy tissue,



Fig. 1—Lupus.
Appearance before Treatment.



Fig. 2—Lupus.
Appearance following Treatment.

and believe that when used in this way radium represents a most important adjunct in the treatment of lupus, although it cannot be depended upon to definitely and permanently cure all cases, or to invariably prevent recurrence.

The advantages of radium as compared with other methods of treatment, are that the treatment is not so prolonged, does not entail so much inconvenience to the patient, and that it is effectual in cases in which the lesion is inaccessible to other methods. It is also of importance that the residual scar is much less disfiguring from a cosmetic point of view.

Lupus.—One of the most satisfactory cases healed has been that of a lady referred in May, 1911, by Dr. James Third, of Kingston, for lupus of the nose and cheek altogether of ten years' duration. The condition first began on the mucous membrane of the left nostril and gradually spread. Various local

treatments were used as cauterization, electrolysis, X-rays, curettage. In 1905 her general health was very poor and the condition extended, and perforated the septum. Since then the skin at the alar margins had become involved, and shortly before we saw her nodules had appeared on the left cheek. The nose when first seen presented a most distressing appearance, the margins of the nostrils being covered with large unhealthy granulations. (Fig. 1.) There was a free foul discharge from the nostrils. Very heavy destructive doses of radium were employed, and as a result the diseased tissue has been removed and the nostrils now present a healed margin. The disease present inside the nasal cavity was treated by radium tubes, which were inserted into the nostrils. On the cheek the nodules present have cicatrized. This patient's general health is not very good, and close watch has to be kept over the condition for fear of a recurrence of the disease. The present local appearance is regarded as very satisfactory. (Fig. 2.)

Angiomata and Nævi.—Until within the last few years radium therapy has not been regarded as a routine procedure in the treatment of these conditions. Electrolysis was sometimes successful in removing small port wine marks, but this procedure was painful and repeated seances were required. Good results were obtained from radium by Danlos, Rehns, Hartigan and others, and in 1907 Wickham and Degrais published a communication, in which they stated that they had treated successfully a very large number of cases of this nature, namely, port wine marks and angiomatous tumors. The duration of the applications and the strength of the dose should be regulated in accordance with the nature of the lesion, and in the case of superficial port wine stains the object aimed at should be to produce gradual obliteration of the stain by repeated applications, each individual case being judged on its own merits in regard to the length of time during which radiation can be tolerated and the frequency with which it is advisable to repeat the seances. The doses should be regulated so as to produce practically no perceptible reaction, and the best results are obtained with plaques or toiles of 50,000 to 100,000 radio-activity screened with lead, the latter being covered with 8 or 10 sheets of black paper, in order to cut off the secondary rays of Sagnac. All writers on the subject are agreed in emphasizing the importance of avoiding if possible inflammatory reaction, and of protecting the normal skin surrounding the lesion. In the majority of cases slight superficial desquamation will occur in the course of four or five weeks after three sittings

of one hour each. In estimating the dosage in repeated applications it should be borne in mind that after radiation the tissues become more susceptible to the action of the rays, and the length of the sittings should therefore be reduced.

In cases of fairly large vascular angiomata, associated with the development of a moderate amount of fibrous tissue, a more destructive action is advisable, and this may be obtained by exposure to the unfiltered rays for three or four hours at a sitting, or a similar result may be obtained without so severe a reaction by using filtered rays and increasing the duration of the applications. In the case of very voluminous tumors the "cross-fire" method may be employed with advantage, the apparatus being placed on the opposite sides of the tumor, which is then saturated with the rays. Wickham and Degrais were the first to demonstrate the beneficial effects of radium in this class of tumor, and their results have since been confirmed by many writers. Individual idiosyncrasies are, however, an important factor in determining the success or otherwise of the treatment, and the prognosis of radium therapy is not so good if the lesion has been previously treated by electrolysis.

In the vascular and pulsatile angiomata of softer consistency, the destructive action which is indicated in the variety referred to above must be avoided, owing to the risk of hæmorrhage. In cases in which the lesion represents a combination of all three forms of angiomata we have had most success with the "cross-fire" method, of Wickham, using fairly strong plaques screened, applied in series consisting of five or six applications, and repetition being dependent upon its results.

The advantages of radium in this connection, as compared with other methods of treatment that have been recommended, are the facility of application and the fact that the treatment causes practically no pain, which is of special importance in view of the fact that a large proportion of the patients are young children. The cosmetic results also compare favorably with those of surgery, the X-ray or electrolysis, the scar being scarcely distinguishable from the surrounding skin.

NEW GROWTHS—BENIGN AND MALIGNANT.

Senile Keratosis.—This condition is very common in people above the age of fifty, and is liable in many cases to degenerate into cancer. Radium rays can be applied with facility, and have been found very efficacious, the pigmentation gradually disappearing, and the surface becoming completely normal in color

and consistency in about five or six weeks after the application. If cure is not complete a second application may be made a month later. In some cases, in which there is a scab of very hard consistency, it is advisable to remove this with the curette, and to subsequently apply the rays.

Papillomata.—The common wart and other papillomatous growths which so frequently, either through irritation or advancing years, take on a malignant growth, respond most readily and conveniently to short exposures of radium rays. When so much stress is being laid as it is at present on the proper treatment of many pre-malignant conditions one can see what a field radium-therapy has in this connection.

Keloids and Cicatrices.—It is necessary to make a distinction in this connection between the cicatrices which are associated with keloids and those due to other causes, in view of the fact that Wickham and Degrais are of opinion that keloid tissue reacts in a selective manner to the radium rays, whilst the normal cell does not do so. Keloid cicatrices may be dealt with either by the destructive or the non-destructive method, the former consisting of treatment by unscreened plaques, with the object of producing a severe superficial reaction. If the non-destructive method is selected screened plaques are used, with exposures of longer duration, the result being a gradual absorption and disappearance of the cicatrix without any visible signs of reaction. Wickham's so-called "cross-fire" method is often useful in dealing with large keloids, and it is advisable that the peripheral portions of the affected area should be thoroughly irradiated, in order to influence possible extensions of the growth beyond its apparent superficial limits.

Although radium may be regarded almost as a specific in regard to keloid tissue, it does not appear to have a similar affinity for non-keloid cicatrices, such as those following cervical adenitis, and therefore, although these may yield to a certain extent when treated by doses sufficiently large to cause a very destructive action, such favorable results cannot be anticipated as those which regularly occur in the case of keloid tissue.

Keloid.—In this connection we would report a case which was referred by Dr. Chas Noecker, of Waterloo, with the following history as furnished by Dr. Noecker:

"Miss M. R., aet. 26 years, had had the ovaries which were enlarged and cystic removed by Dr. Edmund E. King, Toronto, Ont., on June 25th, 1908, and the recovery was uninterrupted. About a year after the operation, the cicatrix became sensitive

and developed into a characteristic cicatricial keloid. On several occasions subsequently small vesicles developed, which, however, healed readily. About July, 1911, a small inflamed area became infected and caused a great amount of suffering to relieve which morphia was administered. The infection was of the virulent type. Soon the wound became gangrenous, and the greater part of the cicatrix sloughed away, exposing the deep fascia over an area 3 x 3 inches. Local treatment was of no avail, and as a last resort the edges were excised, the remaining parts thoroughly curetted, and the wound closed with silk worm gut sutures. The operated field had an angry appearance for some days, but we had primary union rather unexpectedly.

"Several months after operation the cicatrix hypertrophied as before, and the sloughing process apparently without external infection began again. At this stage Thoremadin paste was used, and for a time with good prospects of complete success. The streptococci, however, won out and the wound was 4 x 4 inches in extent, when the case was referred for radium treatment."

When first seen there was an ulcer irregularly oval in shape, situated in the middle line of the abdomen about one inch above the pubis. The ulcerated area was 4 inches in diameter and presented hard thickened edges, particularly on the left side where it was one-half inch in depth. The base was covered with a dirty-brownish colored slough, and there was a free purulent discharge. The patient complained of a great deal of pain in the wound and refused to have a section removed for microscopic examination. Heavy doses of radium were given around the margins and over the base of the ulcer, and within a month great improvement was noticed. Healthy granulations had sprung up, the discharge was less and the area of ulceration had been reduced to two and one-half inches in diameter. Following this, however, the healing process was for a time arrested and another slough formed on the base of the ulcer. She was given further heavy doses of radium, with the result that the base became clean, the hard edges softened down and healing has steadily progressed since.

Epithelioma of the Skin.—This condition may be considered under the headings of rodent ulcer and fungating epithelioma of the skin.

Rodent Ulcer.—This is a lesion where radium gives us perhaps the most gratifying results, for we know how difficult a process it is to treat in many cases. To the action of radium on these cases Wickham has applied the term "selective" on ac-

count of the almost specific effect exercised by the rays in destroying the pathological cells and stimulating the healing process. The duration of exposure to the action of the rays should be varied to suit individual conditions, and should be chiefly dependent upon the manner in which the tissues respond to the treatment. It is advisable to employ unscreened plaques of 100,000 radio-activity, containing 4 milligrammes of radium, and in the first place to give applications of an hour's duration on four successive days. In many cases one such series of applications will suffice, a scab forming in from ten days to two weeks, which gradually loosens and falls off, leaving a smooth non-depressed scar, scarcely distinguishable from the surrounding skin. It is important that if possible the scab should not be interfered with, but allowed to detach itself naturally. If there should be supuration beneath it, mild antiseptics may be applied. It is also advisable that the plaque should be rather larger than the ulcer, in order to include any foci which may be in the course of development outside the visible limits of the lesion. In the case of very small ulcers practically no inflammatory reaction is necessary, but if the ulcer is larger and deeply situated, and if time is an important consideration, it is advisable to employ sufficiently strong doses to result in a certain amount of destruction. If there appears to be thickening of the subcutaneous tissues after the removal of the crust applications of larger duration may be given, light lead screens of one or two-tenths of a millimetre in thickness being used to screen the plaque.

In an experience of between sixty and seventy cases, not one has failed to be benefited by radium treatment. Where the ulcer has extended deeply and involved bone or cartilage complete healing is not always to be obtained, but the advance of the process can be controlled. When confined to the soft parts one can almost guarantee results.

Fungating Cutaneous Epithelioma.—Of this condition a very small proportion of cases do not yield to radium treatment, and Barcat and Balzer report 160 cases, nine only of which were unsuccessful. The failures are usually those cases in which radium therapy has not been resorted to until they are in a very advanced stage. As regards the method of treatment, radium may be used alone, or the growth may be treated surgically by curettage and subsequent applications of radium, the latter procedure being advisable if it is necessary to economize time.

As a rule the operation can be performed under local anaesthesia, radium plaques being applied forty-eight hours later, the

dose being sufficiently large to destroy all peripheral cancer cells. In cases in which it is impossible or inconvenient to give fairly frequent applications it is necessary to induce a more severe reaction than in those which can be kept constantly under observation. After cicatrisation careful watch should be kept for the slightest sign of recurrence in the scar or the surrounding tissue, and the applications repeated if any thickening is observed. Owing to the fact that the lesions are rather deeply situated in these cases, the ultra-penetrating rays sometimes give excellent results, and the same may be said of the "cross-fire" method. The deeper tissues may be influenced without excessive superficial destruction by applying the harder penetrating Gamma rays for fifty to one hundred or more hours at a time. Accord-

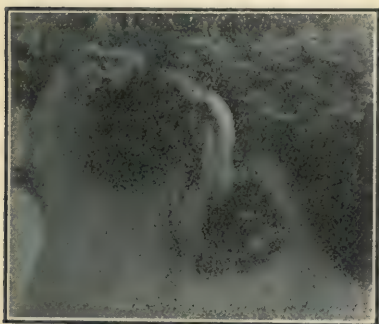


Fig. 3—Fungating Epithelioma.
Before Treatment.



Fig. 4—Same patient as in Fig. 3.
After Treatment.

ing to the statistics the cured cases amount to 90%, and in some of them cure has already persisted for seven or eight years.

The way in which these lesions respond to treatment is so striking that one may venture to instance two cases: T. F. T., aet. 54, referred by Dr. Bowman, of Penetanguishene, Ont., presented on October 29th, 1910, a fungating mass, as large as a fifty cent piece, below and behind the left ear. There had been a small ulcer for about five years, but latterly the growth had been very rapid. The growth was covered with cauliflower excrescences, and projected $\frac{3}{4}$ of an inch above the surrounding skin. The edges were hard and everted, and the tissues about were quite hard, as though the growth extended to some depth. There were no enlarged glands to be felt. Under local anæsthetic the vegetations were removed, and the next day radium applications were made. These were repeated for four days, and then the

patient returned home. He was seen again in three weeks, at which time all that was observed was a small, healthy ulcer, one-half inch in diameter. The epithelium was growing over it, and it looked as though it should be healed completely in another two weeks. The edges were quite soft, as were all the surrounding tissues. A few more applications were made to stimulate the healing, and he again returned home. On December 15th he reported it "practically healed, with only a small crust to be detached."

This patient has been seen since and there is absolutely no ulceration or sign of recurrence.

Another patient referred by Dr. H. L. Anderson of Niagara-on-the-Lake, Ont., was first seen in September, 1911. The condition had started four years before behind the left ear. At the date mentioned the area was as large as a fifty cent piece with raised, hard everted edges. (Fig. 3.) The part was curetted under cocaine and a radium plaque with one lead screen left in position subsequently for 12 hours. When seen a month later there was still a small area three-eighths of an inch in diameter, which had not yet healed, but was quite healthy looking. The healing process continued and the condition has remained satisfactory since then. (Fig. 4.)*

134 Bloor St. West, Toronto.

*We are indebted to Messrs D. Appleton & Co. for permission to reproduce Figs. 3 and 4, which appear in the article on "Radium Therapy," written by us for *Forchheimer's Therapeutics of Internal Diseases*.

INDIVIDUALIZATION IN THE TREATMENT OF PULMONARY TUBERCULOSIS *

BY C. D. PARFITT, M.D., GRAVENHURST.

It is a great pleasure to me to take part in this symposium, and I highly esteem the honor of being invited to contribute to it. The subject allotted to me—the treatment of tuberculosis—is so very broad, and one with which you are all so familiar, that I am sure you will be relieved if I make no attempt to cover it formally, but rather confine myself to some points which seem pertinent for discussion and emphasis.

What is generally known as sanatorium treatment is the acknowledged effective method of treating tuberculosis, whether it is applied in an institution or in the home, by a physician himself, or indirectly through a staff of visiting nurses or social workers. The name now includes much more than it did originally, but the basic principles remain the same, though the emphasis put upon them may have changed somewhat as the result of experience. At first the physician was somewhat overshadowed in the routine application of the simple principles of sound living in excess to a selected group of cases. As the method was gradually extended to include cases of widely varying physical condition, both in institutions and in the home, the need of individualizing treatment became more apparent. The enlarged scope of the sanatorium, combined with the inclusion in the treatment of measures potent for harm as well as good, has made medical supervision rank first in the essentials of the treatment of tuberculosis to-day.

An excess of fresh air, the sheet anchor of modern treatment, apart from its acknowledged respiratory value, is of peculiar importance to the organism in the ventilation of the skin, and as a tonic through the stimulation of superficial nerves and circulation. Its management for this purpose may be difficult, but its value should not be disregarded in arranging a plan of treatment. Long-continued illness and limitations of service, either in the house or in an institution, encourage some disregard of the importance of both aerotherapy and hydrotherapy, carefully regulated, as tonics and hardening agents to the skin. But it

*Read before the Toronto Academy of Medicine, April, 1913.

should be noted that, under a routine régime some patients who are unfitted for the effort of bathing themselves get more harm than good from it.

Diet becomes of first importance for those who have considerable constitutional disturbance. The laboratory investigations of Bardswell, Goodbody and Chapman¹ on diets of consumptives as well as their studies and those of other workers, as to the diet of normal people, give sound ground for future practice. Experiment has verified experience and justifies a moderate addition of proteid to the physiological diet, as giving best results, and emphasises the unwisdom of pushing fats and carbohydrates too far. The forced feeding of earlier days should be reserved for special cases. Bardswell and his co-workers recommend an addition of 30 per cent. of proteid above the physiological diet for the individual, estimated for normal health, to be maintained until the disease is arrested. If the patient is under weight the physiological diet should be increased 30 per cent., also, in mixed carbohydrates and fats, and this increase should be maintained until the weight becomes stationary a few pounds above the patient's best weight. A decrease of 15 per cent. of carbohydrates and fats should then be made, and this diet continued until the arrest of the disease. An average diet will contain 3,200 calories, and is made up of 144 gm. (5 oz.) proteid, 160 gm. (5 oz.) fat, 270 gm. (9 oz.) carbohydrate. This diet is about the same as that of an average man in ordinary health, with the addition of a quart of milk. The added proteid is of importance, and Bardswell finds that when it is not increased patients do not do as well. Those prejudiced against much animal food are inclined to reduce the proteid materially, and also to increase the carbohydrates greatly at expense of fat. Such a bulky diet is undesirable for patients with weak digestion. Excessive feeding has its dangers in causing digestive disorders and rapid and excessive gain in weight may do harm by producing a fatty infiltration of organic cells, quick pulse, dyspnoea, and increased tendency to hæmorrhage. Moreover, no more satisfactory progress is made in the tuberculous areas than on a lighter diet.

As a matter of feeding, the consistent administration of lime and magnesium salts to offset the demineralization, upon which French authors² especially have laid great stress, would be a rational measure.

The proper regulation of rest and exercise is the most important feature in the life of the patient. We have learned much from the observations of Paterson³ and Inman of the relation

of auto-inoculation to fever, and of the rapid control of such fever by the prompt enforcement of "typhoid" rest. The views of excellent authorities upon the soundness of a prolonged rest cure, or the adoption at a relatively early date of graduated exercise, and even of manual labor, to produce auto-inoculation after the manner originated by Paterson, are still at variance. A course midway between the two extremes may be said to be a safe one that gives sound results. It often happens that in a given case an extreme course is required to obtain a desired effect, and discrimination here is necessary, while an indifferent following of any method may only mark time or lose cases. The advocates of the extreme methods of treatment by rest and exercise are in accord to a certain point. Both urge positive measures to ensure rest while there is activity of disease, as shown by fever, the advocates of auto-inoculation even the more rigidly. Both use exercise after activity has subsided, the advocates of rest to a very moderate degree only with very gradual increase, the followers of Paterson to an extraordinary degree after a rapid, consistent increase, while positive rest measures are enforced immediately upon the appearance of certain danger signals. Prolonged rest of the affected lung is the great aim of the advocates of rest, who allow sufficient exercise only after a time to help the bodily functions in general. Nature's own efforts point to the desirability of rest, and it finds support also on immunological grounds. Cobbett, an immunologist of note, favors the view that rest rather than exercise promotes recovery, and says: "The cause of recovery in infectious disease is the acquisition of specific immunity," and "resistance to tuberculosis, like resistance to other infections, is a very specific matter and does not necessarily go hand in hand with what is regarded as the general bodily health." Rest of the affected lung plays no part in the philosophy of Paterson, for whom "the function of rest in tuberculosis is limited to the extent of affording temporary relief to the defensive forces of the blood fluids." The teachings of Wright afford support to this view.

The results obtained by Paterson impress one deeply. His method has been but little used on this continent in the complete manner developed by him and criticism without experience is unwise. It is a difficult method to carry out efficiently apart from an institution with adequate plant, and so is not adapted, except in a much modified form, to health resorts in general, nor to home treatment, as improvisations can give but imperfect results. The method has aroused so much professional and lay

enthusiasm that it has been urged as a treatment for all pulmonary tuberculosis, the enthusiasts, forgetting that the Frimley cases are selected as those of relatively high resistance from the wards of a large receiving hospital, where the patients undergo a fairly prolonged preliminary rest cure. They form less than 20 per cent. of the admissions to the Brompton Hospital. In Ontario, cases are of very mixed grades in the several sanatoria, and while this is so, the method would be difficult to apply if for none other than disciplinary reasons. It still remains to be proved whether the ultimate results obtained by graduated labor will be as good as those obtained by methods which use rest for a long period, with or without tuberculin, before the hardening by vigorous exercise is begun. A comparison made by Lawrason Brown⁴ as to the number of patients able to work three years after discharge, between those treated at Frimley (Brompton Hospital Sanatorium) and those treated at Trudeau (Adirondack Cottage Sanatorium), half of these latter having received tuberculin, shows that 60% of the Frimley cases and 75% of the Trudeau cases are now working. The cases in either instance are probably fairly comparable.

Excellent results have been obtained by both schools, but it does not follow that the arrest of disease obtained by the rest advocates is the same thing as the quickly restored working capacity, possibly with arrest, obtained by the exponents of exercise, and the former may prove on the whole to be the more permanent. A moderately prolonged rest cure, combined with tuberculin in selected cases, and followed by light exercise gradually increased, gives so many good results that many of those who follow the principles developed by Trudeau fear to change to more radical methods. This method appears logical from the standpoint of rest for a diseased lung, with the necessary stimulus to cellular resistance applied without interfering with relative physiological rest. The results obtained by Pratt⁵ in his class method of treating poor consumptives in their homes are unsurpassed by any other manner of treatment, and have been attained by detailed supervision combined with excessive rest out-of-doors. Failure of this method in the hands of others may be largely explained through inattention to details laid down by Pratt. Economic need and the impatience of patient and relatives are the main reasons for objection to the prolonged rest cure. Progress towards recovery may be slow, but it is usually steady and uninterrupted. More relapses are due to over-exertion than to any other cause. Rest in the proper way is so im-

perfectly understood and practised by the profession at large during active processes and while there is evidence of physiological depression, that the writer can only regret the recent exploitation of exercise as a means of treatment to be widely employed.

Another kind of treatment by rest which sometimes gives most dramatic results is the mechanical compression of the lung by the injection of nitrogen into the pleural cavity.

A discussion of its present status is to be found in a current Canadian journal⁶, and the excellent articles by Lillingston⁷ and Robinson and Floyd⁸ enter fully into the subject and give details for its application. Some, as Klemperer⁹, advocate the open method, originated by Murphy, and practised extensively by Brauer, for all cases as being the safer, although it is not devoid of dangers incident to surgery in general. If due precaution is taken in the method of Forlanini the risk is, however, extremely small and the method will find much broader application. The operation in itself is not difficult, though elaborate precautions in technique must be taken to avoid the accidents of gas embolism and pleural reflex. The repeated punctures with a needle are trifling matters compared with open incisions when failure to find a pleural space results because of adhesions.

For cases with fairly advanced chronic disease in one lung and limited disease in the other lung, which are refractory to usual methods of treatment, it promises relief not to be obtained in any other way at present available. Unfortunately only a certain proportion of suitable cases will permit of efficient compression, because such cases are the very ones likely to have firm adhesions. It is impossible to say, however, without actual trial, that an efficient compression cannot be obtained, as will be seen from the description of the following case.

A man of thirty-five had had a severe tuberculous illness two years previously and more or less continued activity ever since, with a history of frequently recurring pleuritic pains on the left side. The left side of the chest was much contracted. The left lung showed extensive cavity formation, and signs of disease were pronounced throughout. The heart could be outlined by inspection alone. It was displaced upwards to the left, and the left margin was at the anterior axillary line 17 c.m. from the midsternal line. There was definite infiltration of the apices of both upper and lower lobes of the right lung, which was much enlarged. Cough was most irritable and sputum varied from one to four ounces. The former was increased by a recent tuberculoma of the larynx. There was fever of $1\frac{1}{2}$ to 2 degrees. The

patient was most uncomfortable and suffered from great mental depression. The tuberculoma was removed with benefit to cough. I procrastinated about attempting pneumo-thorax, as it seemed so very unlikely that it could be done. It was finally undertaken. Puncture was made below the scapula where breath sounds were least modified and collapse of the lung took place with the greatest ease. After the third injection of nitrogen faint breath sounds were to be heard only in the upper part of the back, and the heart could be outlined to the right of the sternum. The relief to cough, diminution of sputum, loss of fever and improvement in mental condition were most dramatic. Instead of lying in bed with a hopeless outlook the patient is now able to take gentle exercise.

For recurring severe hæmorrhages the method has been used with success and should always be taken into consideration as a possible means of relief.

Tuberculin in treatment has been considered by Dr. Caulfeild and I shall avoid discussion of it here.

Homogeneous vaccines are a therapeutic possibility for the relief of secondary infections and are receiving attention by several workers. In acute cases they are probably of little value and may easily be harmful. Bonney and others have ascribed benefit to their use in a small proportion of such cases. I have had only discouraging results with vaccines in fifteen acute cases and abandoned them for fear of doing harm. They were undertaken as a last resort. For reducing sputum in afebrile cases they present a more hopeful outlook.

The prevention of colds is an important measure for a consumptive, and the use of prophylactic mixed vaccines may prove distinctly useful. A few of my cases have been treated with them when they ran the risk of exposure to prevailing infections and the result so far has been encouraging.

The treatment of symptoms and complications cannot be entered upon, and it is here that drugs naturally find their proper place.

As a therapeutic agent the surgeon may at times play an important part in the treatment of pulmonary tuberculosis, often with marked success if given opportunity at the right time. Urgency demands immediate operation, but apart from this surgery frequently offers relief from conditions which depress the general health. With gas and oxygen as the anæsthetic the mischances of operation are somewhat lessened¹⁰. Some instances of recourse to surgical means will be mentioned later.

Sometimes it is well to consider whether tuberculosis may not be best treated by not treating tuberculosis. Where diagnosis has been made that is positive or at least highly reasonable it occasionally happens that the tuberculosis is inactive and not of primary importance. It may be merely incidental with some other disorder the true cause of ill-health, or, while of real importance, it may be secondary to and largely dependent upon some other disease. Not infrequently the true underlying cause of symptoms of ill-health escapes detection or due attention when the congeries of symptoms suggest tuberculosis. I have found most interesting several cases already tuberculous, or at least infected, in which the final successful treatment was not directed primarily at the pulmonary disease. Such cases constitute one of the problems in the treatment of tuberculosis.

The first group comprises chronic infections of the respiratory tract due to organisms other than the tubercle bacillus.

A railroad foreman, aged forty, had had cough for four months with expectoration, slight hæmorrhages and slight fever. General condition good, except that patient was rather too fat. There was no fever. Sputum 2 oz., negative for bacilli to repeated examinations. Chest showed only fine bilateral bronchitis of the lower lobes. Conjunctival tuberculin test gave a marked positive reaction with constitutional symptoms. There was an atrophic rhinitis and the whole interior of the nose was covered with densely adherent crusts. With treatment to the nose crusts no longer formed and the fine bronchial râles became greatly reduced in number within a month. The patient shortly resumed work and has continued in excellent health for the past year and a half.

A boy, aged twelve, had measles, whooping cough and typhoid fever between five and six years of age. Poor health with cough, expectoration, and occasional periods of fever had persisted. Many physicians considered him tuberculous, and a period in a sanatorium was a feature amongst various forms of treatment. His appearance belied the diagnosis. The right front was slightly flattened, but this could be explained by a scoliosis. The lung condition strongly suggested widespread tuberculous disease by reason of the altered quality of breath sounds and widespread râles of varying size, but the lungs were enlarged as shown by percussion. Enlargement of the mediastinal glands could not be defined. Cough was not pronounced. Sputum $\frac{1}{2}$ to 1 ounce daily, and purulent. Repeated examinations of the sputum by the aid of antiformin and ligroin were negative. The v. Pirquet

cutaneous reaction was intense. The tonsils were enlarged and foul in appearance and accompanied by adenoids. Creosotal was prescribed while awaiting the results of sputum examination and the removal of tonsils and adenoids was urged. A week after their removal the expectoration was materially diminished, the breath sounds were less modified and râles much less numerous. A fortnight later sputum had practically disappeared, but I did not again see the patient, as the family returned home without awaiting the appointed examination.

It seems probable that each of these cases had had some activity of a previously latent tuberculosis, but that in each case an infection by bacteria other than tubercle bacilli was the more important part in the illness. Infections of the respiratory tract due to such organisms are of great interest in some cases in which tuberculosis may really be present, and present difficulty and uncertainty in diagnosis. Opportunity for continued observation is necessary to help to a safe conclusion, and even then the less disturbing diagnosis may only be made tentatively. Many patients in middle adult life suggest a present or past pulmonary lesion, and it should not be forgotten that the death rate for tuberculosis is higher in middle adult life than at any other time¹¹. A chronic infection of the upper respiratory tract may also be a cause for one of the lower and should be sought and, if found, treated. Dundas Grant¹² emphasizes the value of washing out the nose in laryngeal tuberculosis and states that many patients date their improvement from the time of beginning such treatment. There is a promising field for the use of bacterial vaccines in cases of chronic infection in which tuberculosis is unproven, as well as in quiescent or slightly active cases of actual tuberculosis. Allen¹³ employs them successfully in chronic catarrhs of the respiratory tract but insists upon the preliminary removal of possible foci of infection such as exist in tonsils, pyorrhœas and suppurating sinuses.

A second group of patients have irregular symptoms which may be traced to the caecal region. The disorder here may be the true cause of illness or it may gravely aggravate an already active pulmonary lesion.

A man, aged twenty-five, had typhoid five years previously. More or less chronic ill-health persisted, with irregular symptoms of a contradictory nature referred to the abdomen. Symptoms somewhat suggestive of early phthisis also appeared four years later, and for fourteen months he was treated as tuberculous. Cough and expectoration had been little if any. Examination

revealed signs suggestive of inactive tuberculosis in the right interscapular region, mainly pleuritic. A small mass could be felt in the region of the appendix. It seemed highly probable that the appendix was most at fault, but because of symptoms which might easily be tuberculous the patient was kept under observation and an abdominal attack awaited. A pronounced reaction with focal signs followed the subcutaneous injection of $\frac{1}{2}$ milligram of old tuberculin. Six weeks later, following an influenzal cold, bacilli were once found in the sputum. After the appearance of abdominal symptoms he was sent down for operation. A thickened appendix ten inches long and attached to the sigmoid was removed. Microscopical examination showed no tuberculosis. After three months the patient resumed work and has since enjoyed excellent health. I lost five months for this patient because I had not the courage of my convictions.

A woman, aged thirty-five, had developed pulmonary tuberculosis following lactation and had swallowed much sputum. There had been a good deal of irregular diarrhœa. A moderately early bilateral pulmonary tuberculosis was found, also a mass in the right iliac fossa which was thought to be a thickened cæcum. Visible peristaltic waves ending in the neighborhood of the mass were fairly frequent. The pulmonary lesion was becoming more marked and the intestinal discomfort increasing. Exploratory incision was advised with the short-circuiting of the bowel in view. An ileo-sigmoidostomy was done by Dr. F. N. G. Starr and later a secondary operation to form an ostium for the escape of gas. The thickened wall of the cæcum suggested the presence of cicatrices. The lung condition subsided steadily after the operation, and twenty months later there was only occasional cough with mucoid sputum. A good deal of abdominal discomfort persists with slight febrile periods.

A young man with little resisting power who had a progressive lesion in the chest, with much cough and sputum, had nine inches of the cæcum and ileum excised because of urgent local symptoms. For three weeks following the operation he coughed but three times and had very little sputum. The peritoneum was already slightly involved at the time of the operation, the pulmonary lesion continued to advance as the peritonitis developed, and he ultimately developed pneumothorax. The last two cases emphasize the influence of a second area of disease upon the symptoms of the pulmonary lesion.

In a third group the uterus and its adnexa play the important part in the illness.

Inflammatory disease may give symptoms which are ascribed to the pulmonary condition.

In one case of relatively inactive pulmonary disease, which showed no noticeable change after several months of sanatorium treatment, acute pain occurred at a menstrual period. Examination revealed a pair of pus tubes. There had been no previous symptoms directing attention to the pelvis. Prolonged illness followed the operation for removal. A year later the patient was in improved health, but there was no material change in the lung condition.

In another class the tuberculosis has probably developed and is maintained solely because of the recurrent excessive loss of blood at the menstrual period. Sanatorium treatment does little for these indolent cases unless the loss is materially reduced. The very indolence of the tuberculosis suggests strongly the relation of the pulmonary disease to the fluctuating degree of anaemia. Several cases have undergone operation and local and constitutional treatment without any marked benefit. Calcium may possibly decrease the coagulation time, but it has done little more than delay the onset without checking the loss. Tuberculosis of these organs may indeed sometimes be present, but its diagnosis is often uncertain.

In most instances tuberculosis itself so dominates the scene that contributory factors in the tragedy are obscured. In some cases, however, antecedent causes of ill-health may be relieved by direct measures, and it may even be necessary to subordinate the treatment of the phthisis proper to that of these basic conditions. I find I must always question my diagnosis and ask myself if I have only phthisis to treat.

Tuberculous patients have been and are being treated by the wholesale, as it were—kept in cold storage and on a not too pliable routine. Sometimes this seems inevitable, but we cannot have the best results without a high degree of individualization in the treatment of even this slow and undramatic disease. Indeed it is in just such disease that individualization is most essential.

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MENTAL DISEASES AND THEIR EARLY RECOGNITION *

BY A. T. HOBBS, M.D.

Superintendent Homewood Sanitarium, Guelph.

The early recognition of a psychosis by the physician, and the urgent necessity for institutional oversight and treatment as soon as diagnosed, is the theme of my address to you to-night.

The difficulty experienced by the physician in general practice is the lack of an intimate knowledge of the science of psychiatry, which can only be acquired through a long acquaintance with the subject.

While the knowledge of general pathology is of great value in assisting the doctor in reaching conclusions as to physical ailments he meets with daily, it utterly fails in affording assistance when applied to the solution of the phenomena that indicate an onset of psychic disturbance.

The functions of the various bodily organs are intimately adjusted and controlled by the lower nerve centres.

The higher nerve centres of the cerebral cortex have not only to keep oversight of these lower nerve centres, but have other and important duties to perform in regulating and controlling the activities of the individual in relation to his environment.

When the mind becomes deranged, the normal activities of these higher nerve centres are so interfered with, that the personality of the patient becomes completely changed. His attitude towards all social, moral, religious, physical and intellectual life of the world outside him is markedly altered.

We have to do with a triangular man, whose emotions, intellect and actions are out of gear. After a careful scrutiny of each of these angles we will soon locate the disturbances of mental continuity.

Before, however, you can properly estimate the present disorders of the mental processes, you must have some knowledge of the patient's normal mental life, for the purposes of comparison.

There is no absolute standard that will apply to every case, and you must, as far as possible, ascertain where the deviation is from the normal line in each individual patient.

*Read at meeting of Hamilton Medical Society, February, 1913.

Having, therefore, fortified yourself with a knowledge of the previous history, you can now proceed with your examination of the patient.

What are the disorders of the emotions in the case before you?

The patient may be unduly pessimistic or optimistic; gay or sad; loquacious or silent; exalted or depressed; expressing love or hate; placid or worried; laughing or crying; and so on through the whole gamut of emotional feeling. He may have been fond of company, but now is seclusive and retiring. His countenance is sad, whereas, it used to be vivacious. He grieves over trifles. He is irritable, with very little cause. He has outbursts of anger or is unusually moody. He laughs to himself or cries and groans aloud. The uncontrolled emotions are displayed before you, and you can chart them as you would a temperature course.

What changes do you observe in the intellect?

You now enter a field whose ramifications through thought process, ideation, and reasoning, penetrate an inexhaustible field of an ever-changing character.

You naturally look first for any memory defects. If you can get his attention, apply simple tests.

Ask him his age, etc.

Ask him: Where were you yesterday? A week ago? A year ago? When did you leave school?

Ask him elementary questions with reference to the geography of his country, that he acquired in his school days.

If married, when was he married?

His birthday and that of the birthdays of his children.

A series of primary questions of this nature. Note the rapidity or slowness of his answers.

You will very soon ascertain if there is any change or depreciation in this primary mental function.

Does he present, in his conversation, any fallacies or vagaries? In other words, does he show that he has delusions and hallucinations?

Bear in mind that there are sane as well as insane delusions. Consideration must be given to the patient's environment and education in determining this. An insane delusion is a false belief arising from a diseased mind.

There are all varieties of delusions: fixed delusions, fleeting delusions, grandiose delusions, persecutory delusions, delusions of suspicion, etc., etc.

The audible expression of many of these delusions by a patient, even before you make a formal examination of him, will often determine for you the character and classification of the mental ailment before you.

Accompanying depression, you usually have the delusions of sin. The most trivial errors and mistakes made in his youth are now exposed for your inspection, and magnified and distorted into "Sins of great calibre." He or she cries: "I have sinned against the Holy Ghost," "I am the wickedest person in the world," "I have done such evil things that I am not fit to live," "I have sold my business and I am ruined."

In the maniacal patient, you will meet with a flight of ideas and delusions, and ever-changing thought, so rapidly enumerated that you cannot keep pace with the variety of delusions.

The parietic, as a rule, will have well-defined delusions, usually centring around the Ego. The fallacy of wonderful strength, great wealth and possession, and of exalted personality will be expressed with great detail and exceeding plausibility, so that those around him are often misled, and the patient is allowed to go on and incur preposterous obligations before the doctor is called in to unravel the tangle.

The paranoiac, with his story of persecution and his accusatory delusions, will deceive the very elect among the laity, and will often have a following of a number of misguided sympathizers, who, because he tells a connected tale of his imaginary wrongs, thinks he is a badly used individual, whose sanity is without question. He is, without doubt, a source of great trouble to his friends, and is, as a rule, the bane of the institution in which he happens to be confined. He is a great letter-writer, and will use ream upon ream of paper in addressing the authorities, denouncing and threatening his supposed enemies, and demanding that due punishment be meted out to his detractors. His delusions may take the form of unseen agencies working upon him, or that persons, known or unknown, are poisoning his foods. His accusations may take the form of defamation of his family. He may claim that he is being constantly watched or followed by someone who is jealous or envious of him. Care must be exercised in ascertaining the true facts in his case, and, as soon as you are satisfied of his delusional trend, he should be committed to an institution without a moment's delay. He is one of the most dangerous lunatics at large, and many vicious assaults and murders can be laid to his credit because of dilatory action upon the part of his friends, and the

failure of his physician to recognize the true gravity of his case.

The delusions accompanying the insanity of puberty and adolescence are not especially significant of the mental derangement.

They are mixed and fleeting, and do not indicate any special trend of thought.

There are other deviations from the normal that attract attention.

The emotional field is markedly affected, where joy and sorrow are shallow and of short duration.

The indifference and lack of interest in events occurring around them is increasingly evident.

The incoherency of conversation, and the retrogression of memory, manifest the progress of intellectual deficiency.

Their actions may be those of impulse or reiteration (Stereotypy), or the reverse may be presented, in which rigidity and passive resistance to everything is predominant.

The early diagnosis of these cases of dementia præcox as described is not easy. They may be taken for any other psychoses ranging from neurasthenia hysteria to chorea and kindred neuroses. The initial symptoms may be mild and typical of a simple neurotic affection. Be on your guard, if the patient is youthful and presents an hereditary taint, as 90 per cent. of dementia præcox cases give a history of neurotic or mental heredity.

Frequent symptoms of intellectual abnormality are shown by the presence of disorders of perception. The hallucinatory type are the most common and have no sensory foundation.

These hallucinations cause much mental distress and unrest and may initiate a dangerous assault upon the person of an innocent bystander.

Auditory hallucinations usually take the form of voices that address the patient through the walls and ceiling, or the window of a room. The voices may say pleasant things to the patient, or, on the other hand, may be full of villification and defamation, producing a keen sense of torture in the unfortunate patient.

The illusory hallucination may be present, when the patient may hear a voice, and misinterpret the sound, as that of a friend or relative in the next room, or upstairs. The patient will believe the evidence of his disordered sense, and will take no denial of the mental phenomenon.

Visual hallucinations may range from an ecstatic character to that of terrifying visions, a shade removed from Dante's

inferno. The disorders of mental sight are most frequent at night, and may be modified by rest in a lighted room.

The hallucinations of taste are associated with the food and drink consumed by a patient. They usually take the form of accusations against somebody who is said to be poisoning or drugging them in this manner. You can readily see how such suspicion may become dangerous to others in a patient so afflicted.

Hallucinations of smell are sometimes complained of by the supposed introduction into the room of gases or noxious vapors under the door or through the keyhole.

Disorders of feeling are located in the skin, when sensation of pain, heat, cold, crawling over or under the skin, etc., are spoken of.

Besides all these abnormal changes of the special senses, there are not infrequent sexual hallucinations in the female, in which a person or persons, named or unnamed, come into her room at night and propose improper relations with her.

The presence of animals or worms in the stomach, and the blocking of the bowels, allowing of no movement, are not uncommon disorders of sensation.

Nearly all hallucinations are more or less distressing, as they appear very real to the afflicted patient.

Profound changes may take place in the intellect of a man apparently without delusions or hallucinations. The patient who, normally, is a steady, conservative and retiring citizen, may become exalted and talkative, expressing ultra-roseate views of life and business; will peddle visionary and badly prepared schemes for the advancement of himself and others, being easily influenced, becomes an easy prey to designing men. If his case is not early diagnosed he will very soon reduce himself and family to penury and want.

The third and last derangement of the normal mind is exhibited by disorders of motor activity.

The relation of the individual to his environment has to be carefully considered when you are about to differentiate the normal from the abnormal action. A native of Central Africa may so conduct himself in his own domain that his movements and gestures and habits of dress are absolutely normal for his locality. If you could, with the Carpet of the Caliph of Bagdad, transfer him in a night and drop him on the streets of Hamilton, I am afraid that he would soon be railroaded into your institution upon the top of the mountain as a mental decrepit.

Irregularities in the working of the motorium centres are

shown by extravagant movements, excessive gestures, noticeable posing, unusual restlessness, or, reversing the picture, the desire to stay in bed, the increasing time of dressing, and the indifference to his work, a frequent hesitancy when out walking, the refusal to eat, drink, or attend to the natural wants. These symptoms of morbid actions are usually accentuated in ratio to the progress of the disease.

Deflections of the motorium are also evident by the morbid impulses shown by kleptomaniacs, dipsomaniacs, and pyromaniacs.

Being now in possession of the abnormal deviations of the intellect, emotions, and the actions of your patient, you will soon come to the conclusion that you are dealing with a case of mental sickness. Although the surface indications may not appear alarming, the wisest and safest course to pursue is to urgently recommend institutional care and oversight.

The friends of the patient may hesitate to commit him to an institution, purely on sentimental grounds. Your course, however, is perfectly clear, when considered from the standpoint of, first, the safety of the patient; second, the safety of the public; third, the necessity for the early arrest of the diseased mental processes, increasing the chances of a patient's recovery.

Kraepelin, the greatest living alienist to-day, says that "mental derangement is the cause of one-third of the total number of suicides you see recorded in the daily press," while sexual crimes and arson, and, to a less extent, dangerous assaults, thefts and impostures, are committed by those whose minds are diseased.

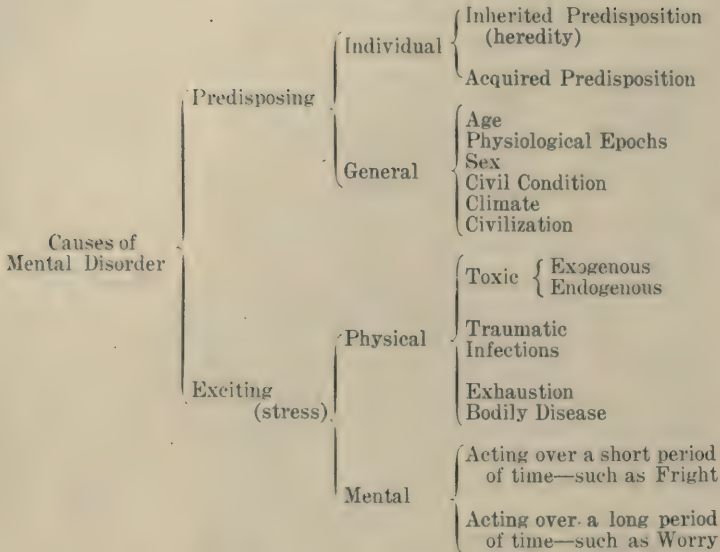
There should be only one consideration before you: the placing of the patient as early as possible under an expert alienist.

Procrastination in these cases is fatal to their recovery, and to recommend them to institutional care long after the time for practically useful treatment is past is a short-sighted policy, and is certainly not in the best interests of the patient.

What are the etiological factors that produce these mental changes? As with physical ailments, we have the predisposing and exciting. I cannot do better than present to you White's table of the causes of Mental Disorder:

MENTAL DISEASES

WHITE'S TABLE.



Taking up this table and discussing them briefly, we find that the *Inherited Predisposition* exists in 60 to 70 per cent. of all cases. While a healthy heredity may not prevent a person becoming insane when exposed to trauma, toxæmia, and exhausting diseases, he is more likely to withstand a mental break-down, although exposed to the same causes that so frequently initiate an attack of psychosis in an ingrained condition acquired through birth.

The liability to insanity practically increases with increasing age.

The physiological epochs of life, viz., puberty and adolescence, the puerperium, the climacteric, and the senium are times of nervous stress, and the liability to mental instability is greater at these periods.

There is a slight preponderance in statistics, when comparing the married and unmarried, to the detriment of the latter.

The effects of climate play a part only when local conditions bring about exhausting fevers that produce a soil favorable to the onset of mental disease.

Insanity keeps pace with the upward trend of civilization. The intensity of the struggle for higher education, and the betterment of social conditions bears more heavily upon the cerebral centres than upon any other organ of the body.

We cannot, however, blame our ancestors entirely for the mental instability of many of our race. There exist exciting causes that are a blot upon our civilization. The vices of man, as portrayed by the prevalence of those two handmaidens of evil, viz., syphilis and alcoholism, are productive of insanity to an alarming degree. It is computed by the best authorities upon mental disease that 25 per cent., or one in every four, of existing mental wrecks were brought about by one or both of these twin vices.

Exhausting diseases of the body and the toxæmias produced by indulgence in opium, cocaine, and narcotics of that nature, together with injuries, are potent physical causes of mental illness.

Over and above these causes that act from within, we have a few exciting factors that act from without, like emotional shocks, worry, and anxiety, that will easily develop a psychosis in unstable ground.

Family physicians can do much in the prevention and alleviation of endless future misery engendered by mental disease in advising against the marriage of the insane, defectives, epileptics, and in helping to secure a proper education and choice of occupation for children predisposed to these diseases.

It is no exaggeration to say that a conservative estimate of the number of insane and defectives requiring institutional care in this young country of ours exceeds 20,000. With the rapid increase of foreign immigration, the landing on our shores yearly of hundreds of thousands of people, whose antecedents we know nothing about, will, unfortunately, increase this number very rapidly. A problem of vital importance thus presents itself, and will add enormously to the difficulties and burdens in the up-building of a great nation. There has been discussed, at various meetings of alienists, again and again, plans for coping with the increase of insanity among our population. Prominent among the suggestions advanced is the necessity for the sterilization of epileptics, confirmed criminals, and the chronic insane, and to secure legislative enactments to further this very desirable end.

The situation, however, is largely in your hands, and without the intelligent support of the general practitioner, to any laudable methods for arresting the growth of these diseases and eliminating the defectives, our virile race is in danger of ultimate degeneracy.

THE OFFICE TREATMENT OF DISEASES OF THE RECTUM

BY DR. CHARLES F. DURAND, TORONTO.

There is no doubt that many persons suffering from diseases of the rectum endure for years much discomfort, pain and often excessive hæmorrhage, without any relief, save that afforded by some advertised nostrum, for fear that should they apply to a surgeon for treatment, the verdict would be general anæsthesia and a cutting operation.

Accordingly, they keep on procrastinating from month to month and year to year the obtaining of the cure which often could so easily be afforded them.

The fear of operation and consequent delay in seeking relief is regrettable, for many of these cases can be treated in the office under local anæsthesia.

This is well illustrated by the following cases:

Mr. R. L., book-keeper, 45 years of age, applied for relief for "itching piles." He had suffered for five years and from loss of sleep and nerve irritation had become almost incapacitated for business.

He greatly feared having to submit to an operation, and consequently put off consulting a surgeon from one time to another, experimenting meanwhile with the various cures so ably described in the daily papers, and, like the Biblical character, had become nothing better, but rather worse.

An examination disclosed the anal opening surrounded by a layer of thickened, leathery skin, with superficial fissures and excoriated by constant scratching. He was quite surprised when informed that no operation was necessary, and that he could be cured by treatment in the office, without even local anæsthesia being required.

With reference to the ætiology of pruritus ani, many of the books state that the presence of hæmorrhoids is a frequent cause.

As a matter of fact the two conditions are rarely associated, and have no connection with each other.

Pruritus ani is, in most cases, a disease *sui generis* due to a local skin affection.

Dr. —, of Buffalo, N.Y., 37 years of age, a man of full

habit, complained of severe pain and tenesmus after each movement of the bowels.

If at all constipated, the pain was so severe that he was obliged to apply hot compresses to obtain relief from his sufferings. He had rightly diagnosed his case as one of anal fissure, and believed that the only cure was thorough dilatation under general anæsthesia.

This undoubtedly would have effected a cure, but he dreaded the general anæsthesia, and consequently kept deferring the procedure from one time to another.

Under local anæsthesia, the fissure was divided and the sphincter cut through, thus at once giving rest to the long-irritated muscle and allowing the fissure to heal.

It is often surprising what serious effects a comparatively insignificant lesion may produce. Mr. J. W., a business man, aged 40 years, had been suffering for more than a year with intermittent attacks of hæmorrhage from the rectum.

Through fear of an operation he had been treating himself with the various pile ointments advertised in the daily press without relief.

When seen by the writer he was markedly anæmic and looked as if his trouble was malignant.

After the sphincter was dilated and some clots removed a small capillary pile was seen to be the source of the hæmorrhage. This was drawn down and securely tied, after which no further bleeding occurred.

Local anæsthesia may be produced of course in different ways, the hypodermic injection of a solution of cocaine, eucaine or other agent frequently being employed for the purpose. This method, as is well known, occasionally gives rise to alarming symptoms not devoid of danger and therefore causes considerable apprehension in the minds of patient and surgeon.

Dr. Samuel Goodwin Gant, of New York, has employed for some time the hypodermic injection of sterile water to produce local anæsthesia in operations on the rectum, with gratifying results.

The writer has made use of this procedure and in suitable cases has found it efficient and entirely devoid of danger.

It is applicable in a large number of conditions such as internal hæmorrhoids, external hæmorrhoids, both cutaneous and thrombotic varieties, polypi, fissures, simple fistulæ, follicular and marginal abscesses and moderate degrees of prolapse.

In cases of ischio-rectal abscess, fistulae with much burrowing, complete prolapse, cancer or in any condition where much cutting is necessary this method for obvious reasons would not be indicated.

There is little or no pain in the application of this method, and in cases where patients are more than usually sensitive and dread the introduction of the hypodermic needle (and these are by no means always women) the parts may be sprayed with ethyl chloride as a preliminary measure.

The technique is simple, and all that is required is a hypodermic syringe with a long needle, which, of course, must be sterilized, and some boiled water.

The temperature of the water is not of much importance, either cold or hot may be used, but water at the temperature of the room that is about seventy degrees Fahrenheit seems to be most agreeable to the patients.

After making the parts as aseptic as possible, according to the predilection of the operator, the site where the needle is to be inserted may be compressed between the thumb and forefinger while the needle is being introduced. The point of the needle should be inserted just beneath the skin or mucous membrane and enough water injected to produce a pronounced swelling, which may be enlarged to the extent desired by repeating the injection. When a number of injections are necessary, each succeeding one should slightly overlap the former, so as to form a continuous swelling and render painless the reintroduction of the needle.

Another point to be observed is to inject the water very slowly as when done too quickly considerable pain is caused.

The advantages of treating diseases of the rectum under local anæsthesia whenever practicable are that many persons who defer applying to a surgeon through fear of operation, will receive proper treatment, that they will apply for relief early, when conditions that might result seriously if neglected, can be satisfactorily remedied, and that many people to whom a couple of weeks detention from business would be very inconvenient can be treated without loss of valuable time.

590 Huron St., Toronto.

THERAPEUTICS IN 1912

In the matter of therapeutic progress, the year just closed has been one of outstanding importance. Of the numerous announcements made, not a few seem destined to attract more than passing attention; and the number of new methods of treatment introduced shows that the science of therapeutics is in a flourishing condition.

Anæsthetics.—Anæsthesia by intravenous injection has undergone great developments during the past year. Perhaps the most important of these has been the employment of soluble hypnotics by this method, *Hedonal* having been found to furnish a useful means of producing general anæsthesia. *Paraldehyde* has also been used in this way. The intravenous use of *Ether* in normal saline has been further developed, and the *Scopolamine-Morphine* narcosis is fairly established. The use of *Narcophine*, the double meconate of narcotine and morphine, has been advocated as an adjunct to scopolamine, certain advantages being claimed for it. A remarkable discovery in connection with ether inhalation, reported in our last issue, is that the use of oil of orange not only disguises the taste of the ether, but permits of the application of general anæsthesia in a manner in many respects more satisfactory.

Cancer.—As usual, the literature on cancer has been voluminous, many books and papers having appeared on the subject. The *Selenium-Eosine* method of Wassermann has attracted considerable attention; the use of *Silicates* internally and *Arsenic* externally, although, as we pointed out, far from new, has induced numerous editorials in the medical press; while *Ionic Medication*, *Thorium*, and *Salvarsan* have also been advocated. An announcement made in the early part of the year regarding the beneficial effects of *Taraxacum* has an added interest in the fact that this drug has been found to contain choline, which has also been advocated as a remedy. The use of *Potassium Salts* is extolled in a book just published, while among the new remedies put forward for this disease may be mentioned *Adrenine*, *Arpholine*, and *Antimeristem* or *Cancroidin*. Numerous papers have been published on the etiology and incidence of the disease, all throwing more or less light on a very mysterious subject, but it is to be feared that the real truth has not yet been discovered.

Cell Proliferants.—The value of scarlet red as a means of inducing rapid cell-growth in wounds and other lesions has led

to a search for other substances having similar properties. Notable among these is *Allantoin*, a substance identical with the active principle of comfrey root (*Symphytum officinale*). The value of this substance appears to have been satisfactorily demonstrated, and its use is now fairly extensive.

Chorea.—Chorea is a disease the remedies advocated for which are legion. *Salvarsan* has been tried, but reports are not enthusiastic. *Adalin*, the new hypnotic, has been suggested, and reports of the use of *Magnesium Sulphate* have been received. Other remedies referred to are not new.

Cholera.—It is now some years since Rogers first announced his treatment of cholera by means of hypertonic *Saline Infusions*, a method the value of which is now beyond doubt. The same author has shown the value of estimation of the specific gravity of the blood in cholera cases as an indication of the amount of fluid to be injected, and as a help in diagnosing collapse due to causes other than loss of fluid. The internal use of permanganates continues to prove of value, and *Iodine* has also been suggested as an internal remedy.

Diabetes.—Diabetes was made the subject of special consideration in our April number, and reference to that issue will reveal practically all the progress of the year in regard to its treatment. A number of new remedies have appeared, most of these being more or less of secret composition; *Vaccine* treatment has been suggested as suitable in certain cases. The use of *Jambul* has again been discussed, and the necessity of certain precautions in the use of sodium bicarbonate injections in diabetic coma has been pointed out.

Diarrhœa.—The use of hypertonic *Saline Solution* has been found useful in infantile diarrhœa, and several observers have reported good results. An interesting article by a French author regarding the use of *Cocaine* internally has also attracted some attention. A drug named *Uzara*, the root of an unknown South African plant, has been well spoken of, particularly on the Continent. It is said to act on the musculature of the gastro-intestinal tract through the splanchnic nerve, and has been found to contain a bitter anæsthetic principle as well as a substance resembling digitalis in action.

Dysentery.—The successful treatment of amœbic disease by means of injections of soluble salts of *Emetine* has been established. Not only is this to be regarded as a specific treatment for amœbic hepatitis and amœbic dysentery, but it is also of great diagnostic value. This method of treatment is one of the most satisfactory therapeutic announcements of the year.

Enuresis.—Recent progress in the treatment of enuresis was fully reported in our August number. There is practically nothing of importance to record as having been discovered during 1912.

Eye Diseases.—As usual, a large amount of work has been done in ophthalmology, and much literature has appeared. New therapeutic points, however, have been few. The value of *Di-onine* in iritis has been pointed out, also the use of *Mercuric Cyanide* in trachoma. In this latter disease *Diphtheria Antitoxin* has been found to be of some value. The treatment of gonorrhœal conjunctivitis by means of continuous irrigation of *Potassium Permanganate* has been the subject of an interesting communication. *Tuberculin* has been found useful in eye diseases due to the tubercle bacillus. Some interesting notes on the value of *Radium* in ophthalmology have appeared.

Gout.—The therapeutic action of *Radium* in gout has been explained. The emanation, it appears, decomposes sodium urate with the formation of soluble ammonium salts, which are easily eliminated. The injection of a suspension of uric acid in water has been found to cause a fixation of complement and to produce antibodies which tend to eliminate the disease. Under the name of *Urosemin* such a suspension has been put on the market. A number of new remedies for gout have appeared, the most important being *Novatophan*, a new form of atophan which has the distinct advantage of being tasteless.

Hypnotics.—Quite a number of new hypnotics have been added to the list during the past year. *Adalin*, introduced in 1911, has come into fairly extensive use, while among the novelties may be mentioned *Aleudrin*, the carbamic acid ester of dichlorisopropyl alcohol, *Codeonal*, a combination of diethylbarbituric acid (veronal) with codeine, *Luminal*, or phenylethylbarbituric acid, and *Veronacetin*, a combination of veronal-sodium with phenacetin and codeine phosphate. *Phenylurea* has been introduced by a Japanese investigator, and the intravenous injection of *Paraldehyde*, referred to in the paragraph on "Anæsthetics," has been recommended.

Leprosy.—The *Nastin* treatment of leprosy has been the subject of further contributions, some of which are more hopeful in character than those of the previous year. An announcement comes from Japan of a remedy called *Hepatoxin*, which is prepared from the liver of a fish supposed to be responsible for the disease. This is said to be analogous to the antivenin prepared from snake poison.

Mental Diseases.—Results have been published of the treatment of certain mental diseases by means of *Salvarsan*, and while

these are not exactly brilliant they are considered sufficiently satisfactory to justify further trials. The use of *Colloid Metals* and of *Nucleic Acid* has also been reported on, and the results are described as generally favorable. Several of the new hypnotics, notably *Adalin*, have been recommended for use in insanity. In tabes dorsalis, very satisfactory results from the use of vaccine have been reported, while an antiserum prepared from the sheep, and given by intraspinal injection, has caused striking improvement both in this disease and in general paralysis.

Pneumonia.—The use of *Camphor Injections* in pneumonia is still advocated, and *Colloid Metals* have also been recommended. The acknowledged value of quinine in this disease has led an investigator to try injections of the soluble *Quinine-Urea*, with satisfactory results. Treatment by *Vaccine* has been investigated, but the results are not in all cases encouraging. The use of a *Serum* by intravenous injection has been advocated by several.

Rheumatism.—Some of the new remedies recommended for rheumatism have already been referred to in the paragraph dealing with gout. In other respects, lines of treatment are based mainly on the use of *Salicylates*, either as such, or in the form of acetyl-salicylic acid, or one of its congeners. As a substitute for salicylates, *Melubrin* has been introduced. This is antipyrine-sodium amidomethanesulphonate, and reports on its antirheumatic action are very favorable.

Skin Diseases.—The year's progress in dermatology having been fully summarized as recently as our November number, it is unnecessary here to recapitulate it. Treatment by means of "*Illuminated*" *Quinine* was referred to in last issue.

Smallpox.—The use of iodine as an application in smallpox has been favorably reported on by several investigators, all of whom speak most favorably of its value in preventing pitting and aerial dissemination.

Syphilis.—The most important development in the treatment of syphilis has been the introduction of a new form of salvarsan, *Neosalvarsan*. This and salvarsan will be dealt with by themselves in another paragraph. Much has been written on the value of *Mercury*, and the various methods of its administration have been discussed. The use of *Sodium Cacodylate* has also been reported upon. Many authorities now favor combined treatment with arsenic and mercury. Most of the new remedies introduced during the year have been compounds of one or other of these. The use of *Spinal Fluid* in nerve syphilis has been described.

Tropical Diseases.—An instance of the continued and increasing interest in tropical diseases is to be found in the fact that the Sleeping Sickness Bureau has changed its title to that of "Tropical Diseases Bureau," and its residence to the Imperial Institute. The *Bulletin* of the Bureau now deals with tropical diseases generally. The *Yellow Fever Bureau Bulletin* has been enlarged, and now deals also with dengue and pappataci fever, it being considered that all three diseases are due to allied organisms. Several other publications now deal exclusively with this subject, including the *Journal of the London School of Tropical Medicine*, inaugurated in December, 1911, and readers who are interested in the subject are referred to these. The work done on *Cholera* and *Leprosy* has already been described. Investigations in India point to bed-bugs as the probable cause of kala-azar and Oriental sore.

Tuberculosis.—A great mass of work continues to be done in connection with tuberculosis, and the results are certainly more satisfactory than is the case with many other diseases. *Tuberculin* treatment is still in favor, but its limitations are now being better recognized. New forms of this substance are constantly appearing, and reports have been made on their action and that of older forms. Among the newer tuberculins may be mentioned *Endotin*, Schering's *Tebean*, Spengler's "I.K." or immune substances, etc. Numerous reports have appeared on *Dioradin* (radio-active menthol iodine), some of them favorable, others the reverse. The use of *Allyl Sulphide*, in the form of garlic preparations, has several warm advocates, and *Allyl Cinnamate* has also been recommended. Several continental investigators speak highly of *Sodium Cacodylate* as a valuable remedy. Other methods, such as sanatorium treatment, as also the incidence and general aspects of the disease, have, as usual, received much attention. A new vaccine treatment, quite recently announced by Friedmann in Berlin, is attracting considerable attention at the moment.

Typhoid Fever.—Few new remedies have been mentioned in connection with typhoid fever. *Acetyl-salicylic Acid* internally and *Guaiacol* externally have been referred to, and the value of *Monsonia*, a South African drug, has again been insisted upon. The value of *Russo's Test* of methylene blue has been questioned, and the *Ophthalmic Reaction* has been further investigated.

Whooping-Cough.—In the treatment of whooping-cough, the value of *Iodoform* injections has been pointed out, as also the use of *Quinine* internally. Vaccine treatment has been highly spoken of.—*The Prescriber*.

Progress of Medical Science.

OBSTETRICS AND GYNAECOLOGY

IN CHARGE OF ADAM H. WRIGHT, K. C. M'ILWRAITH, FRED.
FENTON, AND HELEN MACMURCHY.

Management of Grave Emergency Cases of Extrauterine Gestation

F. Cobb draws the following conclusions from a study of 137 cases of tubal and interstitial gestation at the Massachusetts General Hospital from 1902 to 1910: 1. More than thirty-three per cent. of extrauterine gestations occur in young primiparæ. 2. Salpingitis, or pelvic infection, is not an essential or frequent causative factor. 3. Most of the cases of complete rupture with alarming hæmorrhage occur in the early weeks, often in the first month; these are the cases that are rapidly fatal unless operated on. Patients who have gone two months or more are those that furnish the greatest number of nonemergency cases. 4. Cases of sudden, severe rupture, until signs of marked intra-abdominal hæmorrhage are present, often simulate other grave abdominal emergencies with tenderness and spasm, high white blood count, fever, and vomiting. 5. In grave emergencies with signs of extreme hæmorrhage, operation should be done at once without waiting for a possible reaction. 6. In the less severe cases of tubal rupture, without signs of marked hæmorrhage, a correct diagnosis is often difficult or impossible. 7. The menstrual history cannot be depended upon; many of the most alarming cases had skipped no period. 8. The character and location of the pain may vary within wide limits. 9. Tubal abortions are nearly as frequent as tubal ruptures. Cases of tubal abortion seldom give a history of skipping a menstrual period, but a history of continued slight flowing or dribbling since the last period. 10. In regard to treatment he makes the following statements: Immediate operation is the method of choice; delay, even for transfusion, is dangerous and fatal, especially *delay with stimulation*; with proper technic and use of intravenous salt solution the percentage of deaths directly due to operation will be very low; in a very small percentage of cases direct transfusion will be needed and will save the small number of cases that would be fatal otherwise; direct transfusion should be done after operation, not be-

fore; at present, with the availability of infusion and direct transfusion, it is criminal for any operator of reasonable skill to delay.—*N. Y. Med. Jour.*

Treatment of Post Partum Haemorrhage

Ratchinsky resorted to the following very simple and effective method of stopping severe post partum hæmorrhage: With the hand in the vagina he raised the uterus out of the pelvis and, by tilting the body of the uterus forward, brought it well over the pubis. By this procedure the broad ligament is put on a stretch, distorting and compressing the uterine vessels, while the uterus is compressed against the pubic bones. In two cases he succeeded in the manœuvre by external manipulation alone. He also employed the method successfully in two cases of metrorrhagia, one due to metroendometritis and the other fibroid. In looking up the literature, the author discovered that this method was suggested by Fritsch, in 1904, although the purpose was merely to produce compression of the bleeding uterus. The same idea occurred to Ott, a Russian, in 1901. Yet, notwithstanding the simplicity and effectiveness of the method, it received no notice from obstetricians.—*N. Y. Med. Jour.*

Pyelonephritis of Pregnancy and the Puerperium

J. W. O'Connor (*Bost. Med. and Surg. Jour.*, 1912, clxvii, 652) states that infection of the pelvis of the kidney invariably involves the parenchyma. Owing to its anatomical relations the right kidney is the more vulnerable. The disease is much more frequent than supposed; the writer estimates that it occurs once in every 3,000 cases. Malnutrition, constipation, and tonicity of the abdominal muscles are predisposing factors; tendency to renal abnormalities on the right, dextrotorsion of the uterus and predominance of positions in the right oblique diameter favor the infection of the right kidney. Infection by the colon bacillus is the most common type, direct transmission through the intestinal walls being the probable mode of entrance. The pathological picture shows the pelvis and ureter dilated with pus and miliary abscesses in and beneath the cortex. The cardinal symptoms are smarting micturition, chills, fever, nausea and vomiting, pain in the loin and elevation of pulse. The urine is turbid, purulent and albuminous. Tenderness in the region of

the kidney is always present. Enlargement of the organ can be demonstrated in about one-fifth of the cases. Abortion and surgical kidney are the most common complications. The diagnosis can generally be made on physical signs and urine analysis, the differentiation from appendicitis presenting the greatest difficulty. Prognosis is usually good for the mother and less favorable for the child. Treatment by rest, sedation, catharsis and urinary antiseptics has met with success. The use of vaccines and pelvic lavage, if of any real value at all, entails dangerous delays and, being extremely technical, is beyond the scope of the rank and file of the profession. Early operation in cases that assume a surgical aspect is to be strongly recommended.—*Amer. Jour. of Obst.*

Eclampsia with Symmetrical Necrosis of Renal Cortex and Suppression of Urine

Professor Robert Jardine and Dr. A. M. Kennedy (Glasgow) described three cases clinically suggesting eclampsia, in which similar pathological changes involved the kidneys. In the first a 9-gravida aged 34 had concealed accidental hæmorrhage in the seventh month of pregnancy. There was absolute anuria for four and a half days. The patient was delivered three hours after admission and died four days later. There were no fits. The second patient was a 2-gravida aged 38, who was delivered of twins the day after admission. The urine, on admission, was loaded with albumen. There was anuria for two and a half days ending in death, preceded by one convulsion. The third patient was a 1-gravida aged 23, four and a half months pregnant, admitted comatose after several fits. The urine was loaded with albumen, and she died after one and a half to two days' suppression. Dr. Kennedy found in all these cases symmetrical necrosis of the kidney cortex, more or less limited to the outer two-thirds and varying in degree with the duration of the suppression. In the two older cases the necrosis was more or less uniform and was separated from the living inner third by a hæmorrhagic zone. The cortical vessels were thrombosed in the necrotic zone only. In the earliest case the necrosis was in patches, which were surrounded by intense congestion. There was little thrombosis, and it was limited to the capillaries. The questions arose, was the thrombosis primary and the cell degeneration secondary, or was this latter change primary? or, finally, were both due to the same cause? The authors, in conclusion, ascribed the necrotic change to the eclamptic toxin, whatever this might be.—*Brit. Med. Jour.*

LARYNGOLOGY AND RHINOLOGY

IN CHARGE OF J. PRICE-BROWN.

Report on Surgical Treatment of Frontal Sinus: A Critical Study of Post-Operative Complications. (Sieur and Rouvillois (*Arch. Internat. de Laryng.*, etc. 1912.)

In this report the authors impress upon the reader that the importance and number of indubitable post-operative complications in the surgical treatment of these affections have been singularly exaggerated; and they sum up the article with the following conclusions:

(1) Let us be clear-sighted clinicians in our general and local diagnoses, and perform operations proportional to the resistance of the patient and the extent of the lesions.

(2) Let us be eclectic surgeons, without pinning ourselves to a systematic procedure, but do all that is necessary, and no more.

(3) Let us be prudent and painstaking operators and we will avoid the dangers incident to intervention. Insufficiently experienced operators should withhold their hand.

Report for the Year 1912 from the Ear and Throat Department of the Royal Infirmary, Edinburgh, under charge of Logan Turner.

By J. S. Fraser and Raymond Verel (*Journal of Laryngology*, Feb., 1913).

After giving an account of 76 operations on the nasal accessory sinuses, performed by J. S. Fraser during the last six years, the report closes with a series of enumerated remarks, from which the following are taken:

(a) The periodicity of pain in cases of frontal sinus disease is interesting. The inferior turbinals tend to become engorged at night. Is it not possible that the middle turbinals are engorged during the time at which severe headache is present in frontal cases?

(b) The value of transillumination is doubtful. At most it is only an aid to diagnosis.

(c) With regard to operations upon the frontal sinus, there seem to be two weak points: (1) The danger of necrosis of the bridge, (2) the narrowing of the opening into the nose, allowing

accumulation of pus in the area behind the bridge—one of the writers being informed that Killian himself is by no means satisfied with the present technique of his operation.

(d) The writers are not satisfied with their own technique in intra-nasal operations upon the antrum.

(e) One of the writers has shown that sphenoidal suppuration is much less common than is usually reported, and that naked-eye examination of the contents of the sphenoidal sinus is not a reliable guide to the presence of sinusitis.

(f) The question is asked whether the instances in which scarlatiniform rash follows operations on the accessory sinuses are true cases of scarlet fever?

Nasal Deformity Corrected by Implantation of Septal Cartilage. (*Laryngoscope*, Feb., 1913.)

Three cases were reported at the May meeting of the New York Academy of Medicine.

The first, by Otto Glogau, was that of a man aged 20, who, four years previously, had his nose broken and saddle-nose produced by a fall. There was a multiple fracture of the septum, with bone and cartilage diverted to right. An unsuccessful paraffine operation had been tried one year before Glogau saw him.

To improve the stenosis as well as the external condition, the septum was treated much as in submucous resection, with the addition of a transverse incision of about 15 mm. at the lower end of the nasal bones. Through this opening the subcutaneous tissue was separated along the back of the nose down to the tip. The cartilaginous flap was then severed from its posterior attachment and placed in a physiological salt solution. Being still covered by its perichondrium, the cartilage was then shaped to fit into the deformity, and carefully inserted; after which the transverse open wound was sutured and dressed, with antiseptic precautions. On the fourth day the external wound suppurated and opened. Healing then took place by secondary granulations, leaving a somewhat conspicuous scar. The inserted cartilage, however, became permanently attached, correcting the deformity.

The second case was by T. S. Lovell. This patient, aged 20, was an amateur boxer. On the last of November, 1911, he was struck on the nose, fracturing it, and flattening it down to his face. The next day he was treated at a hospital for fracture of the nose. Abscess followed. This was opened, irrigated and

dressed with iodoform gauze. In two weeks the wound healed and the patient was discharged.

Three months later he returned to the hospital, complaining that he could not breathe through his nose. The nose was very much depressed, the septum thick and bulging on either side against the external nasal wall. A week later a submucous resection was done, when it was found that there was no cartilage whatever in the nose, its place being taken by infiltrated fibrous tissue. It was at first intended to take out the cartilage and then insert it in such a way as to fill up the gap and raise the depression. But, cartilage being absent, the resection wound was simply treated in the ordinary manner.

One week later another patient requiring resection presented himself, and after removing the cartilage it was inserted in the previous patient's nose. In this case adrenalin and cocaine were both used by injection. An incision was made in the upper part of the vestibule of the nose, half an inch in, and the mucous membrane and soft tissues were dissected back. Then the cartilage having been pared to the required shape, was slipped in, from the point of the deformity above to the tip of the nose. A single suture was placed to close this wound. The patient made a good recovery, with improved appearance. No dressings were used.

A third patient was shown, in which an injury, producing a depressed nose of fourteen years' standing, was also treated in a similar way—the cartilage from another patient being inserted to raise the bridge. In this case, also, the operation was successful in improving the appearance of the nose, and relieving the obstructed respiration.

On the Treatment of Chronic Laryngeal Stenosis by Means of Drainage Tubing

E. Schmiegelow (*Monets f. Phrenheilh*, year 46, No. 5) describes a method which he has been elaborating for some years. His treatment of laryngeal stricture consists in centrally dividing the larynx and trachea under general anæsthesia, dissecting out the cicatricial tissue, introducing a piece of rubber tube in order to keep the parts open, transfixing it in position by silver wire passed through the alæ of the thyroid cartilage, and then closing the wound. The tube is worn for about three months. Then the wire is cut and removed and the tube drawn from the larynx through the mouth.

Two other points in technique are dwelt upon: (1) A silk cord should be passed through the tube before placing it, to keep it from slipping down into the chest before the silver wire is inserted. The former should be withdrawn on closing the wound. (2) The upper end of the tube should not lie above the aditus nor below the vocal cords. Otherwise, food might enter the larynx in the first instance and dyspnoea occur in the second. The free ends of the silver wire ought to be clamped on a small lead bullet.

Two instances are quoted as successfully treated by this means. The one, a child, after stenosis resulting from a tracheotomy. The other, a woman of 55, convalescing after thyrectomy and the removal of the right vocal cord for epithelioma. In this case stenosis developed, and was relieved by the wearing of a tube for two months in the way related.

Septic Thrombosis of Right Lateral Sinus and Internal Jugular Vein Successfully Treated by Operation

E. Malcolm Stockdale (*Jour. of Laryn., Rhin. and Otol.*, Jan., 1913) details the history of a very unusual case. A boy, three years old, had scarlet fever, leaving chronic purulent discharge of pus from both ears. Several years later an ineffectual mastoid was done on left side. When 12 years old, in September, 1898, he was first seen at the Liverpool Eye and Ear Infirmary, and a complete post-aural operation on the same side was done, with satisfactory result.

One year later he was brought back suffering from rigors and severe pain in right ear, with tenderness over right mastoid. Temp. 104, pulse 170, resp. 38. The following day, under general anæsthesia, this side was operated upon, and the mastoid found to be extensively infiltrated with pus. The mastoid emissary vein was thrombosed, the wall of the lateral sinus was in a sloughing condition and its lumen filled with a very offensive clot. The mastoid antrum was small, the iter and tympanum were filled with granulations, and the malleus and incus had both been shed.

After an extensive radical operation, the skin incision was closed by silkworm sutures, gauze drains being inserted at the upper and lower angles.

On several occasions pathological examinations of the cerebrospinal fluid were made, and each time micrococci and staphylococci were found. Although the fever after the operation sub-

sided for several days, it soon commenced to rise again, reaching 103.4 on the ninth day.

Another operation was then done, removing more yellow bone, and making a free horizontal incision in the dura and arachnoid above the lateral sinus. A half-inch ribbon gauze drain was next inserted along the upper surface of the tentorium cerebelli to the depth of an inch. A second incision, T-shaped, was made below the lateral sinus. From this a great quantity of cerebro-spinal fluid escaped, and the cerebellum commenced to bulge into the wound. Cyanide dressings were used. During the next week the boy's condition improved, but the cerebellum bulging increased.

Nine days after the operation, violent convulsions, with vomiting and coma, occurred. Death seemed imminent, but the lad commenced to improve again.

By December 13, 1909, the hernia had reached the size of a hen's egg, and from a small aperture in the centre cerebro-spinal fluid was constantly oozing. Nystagmus, lateral and rotatory, were present, both to the right and left. Slight paresis of right arm and leg developed. By January 5th he could not stand alone, falling toward the side of the lesion. On January 19th, the hernia burst, leaving a transverse slit $1\frac{1}{2}$ inches across, from which cerebro-spinal fluid flowed freely. Patient was somewhat collapsed.

The same evening the third operation was done under chloroform. An incision was made around the base of the hernia, forming a groove for the reception of strong silk gut ligatures, which were applied and slowly tightened until strangulation of the protruding portion of the cerebellum took place. The operation was proceeded with cautiously and slowly, the intervals being used to freshen the edges of the scalp wound and raise the flap all round with a view to covering the aperture in the skull and closing the wound.

During the operation the intra-cranial pressure steadily increased, with marked cerebral pulsation, followed by collapse, with pulse and respiration scarcely perceptible. This was followed by lowering of the intra-cranial pressure and gradual recovery.

As the symptoms continued to improve, the silk-gut sutures were replaced by cat-gut. The scalp flaps were completed and sutured in position. Two rubber drainage tubes were inserted. Recovery was uneventful and complete.

The portion of cerebellum excised consisted of medulla and cortex, and exhibited well-marked convolutions covered by thick plastic exudation.

Infant Suffering from Hereditary Syphilis Treated by Intravenous Injections of "606"

J. L. Bunch (*Proc. Roy. Soc. Med.*, December, 1911). The article details the history of a child eight weeks old, presenting all the usual symptoms. The skin was covered with a maculopapular rash. It had a thin, old appearance. There were fissures at the angles of the mouth, and it had snuffles. On June 21, 0.03 grm. of salvarsan was injected intravenously. Three days later an intramuscular injection was given, and a week after this all syphilitic lesions had disappeared.

Although seemingly successful in this case, the writer issues a warning. He says that intravenous injections in infants have not been very successful, and that intra-muscular injections have been associated with sloughing of tissues.

Large Keloid, Involving Scar, after Mastoid Operation

Logan Turner and W. Milligan (*Jour. Laryn. Rhin. and Otol.*, March, 1913).

In Logan Turner's case, a boy aged 10 returned to the hospital two years after a mastoid operation with a large keloid in the situation of the old incision. This was removed, followed by primary union. In eighteen months he came back with a larger keloid than ever. The writer did not intend to operate again, as the oftener a keloid was removed the more likely it was to develop again. He could not throw any light upon the origin of keloids.

In Milligan's case the keloid was as large as the end of his thumb, and situate over the mastoid. It was excised quite widely, but the patient returned to the hospital a year later with a return of the growth. He said that there were two theories as regards the origin of keloids. One, advanced by Senn, of Chicago, that it was due to locked-up micro-organisms in the wound. The other was that the growth was due to the mobility of the platysma muscle. The completeness of the operation in each of the reported cases was against the former theory.

The Recurrence of Adenoids

Thomas Guthrie (in *The London Lancet*, April 20, 1912) describes a case in which the recurrence was indisputable. One photograph showed the original mass of clearly defined adenoids removed at the age of three years; while the second photograph showed the renewed growth taken away eighteen months later.

Editorials.

CANADIAN MEDICAL ASSOCIATION

The 46th Annual Meeting of the Canadian Medical Association will be held in London, June 24-27, under the Presidency of Dr. H. A. McCallum of that city. The Local Committee on Arrangements are planning a programme about as follows: Morning and afternoon of the first two days will be set aside for the meeting of sections. It is also probable that there will be a symposium on the morning of the third day, and perhaps another symposium on the same afternoon. It is expected that all the sections will take part in these two symposiums. The fourth day will be occupied by medical and surgical clinics, which will be conducted by clinicians of international repute. The Address on Medicine will be delivered by Dr. Barker, of Johns Hopkins University, Baltimore; that on Surgery by Dr. J. A. Hutchinson, Montreal; that on Gynæcology by Dr. Thos. Cullen, of Johns Hopkins, Baltimore. These addresses, together with the President's address, will be delivered at the evening sessions.

THE OLD TORONTO GENERAL HOSPITAL

Dr. C. K. Clarke, Superintendent of the Toronto General Hospital, considers that the occasion of the opening of the new hospital on College Street will be a good time to issue an account of the General Hospital of Toronto, which, from a historical standpoint, is the most interesting institution in Ontario. It was established by funds supplied by the Loyal and Pa-

triotic Society in 1812, and really was the creation of big-hearted women and men, who strove to minimize the horrors of war. The medals struck for the heroes of the War of 1812 were never issued, but instead they were melted down, and the bullion sold, and the proceeds were handed to the hospital.

A complete history of the hospital will be published for the first time, and it is expected it will form an interesting contribution to Canadian history, as well as to hospital literature. The price will be: Bound in cloth, \$1.50; in special binding, \$2.00.

AGE LIMIT FOR SERVICE IN HOSPITALS

We learn from the *Association Journal* that, at the 91st annual meeting of the Montreal General Hospital in February, the following resolution was unanimously passed:

“That from and after January 1st, 1913, no person should be allowed to continue service on the attending staff of the hospital as physician or surgeon to the Indoor Department, or as specialist or as physician or surgeon to the Out-patient Department, or as assistant specialist, after having attained the age of 62 years.”

The writer expresses the opinion that at the age of 62 a physician is often at his best, and doubts the advisability of depriving the hospital of that “best.”

Difficulties in connection with such age limits have been encountered in connection with various hospitals in all parts of the civilized world. It seems impossible to make a cast-iron rule which will be suitable in all cases. It is probable, however, that the majority now consider that there should be an age limit, and

also perhaps a time-service limit, but it might be well to have a certain amount of elasticity as to such rules, for instance, in the Montreal General Hospital. If a physician is found to be at his best when 62 years of age, the term might be extended for three or five years by the Board of Governors.

THE GLASGOW LISTER WARD AND MUSEUM

In our January issue we referred to the proposed Lister Memorial. We announced that the Executive Committee had decided on the following:

1. A tablet in Westminster Abbey.
2. The erection of a monument in London.
3. The establishment of an International Lister Memorial Fund for the advancement of Surgery.

We also announced that a suggestion had been made in Glasgow that one of the wards of the Royal Infirmary in that city, where Lord Lister's antiseptic methods were first put into practice, should be preserved as a museum in which objects of interest associated with him and his discoveries may be exhibited.

It seems peculiarly fitting that there should be such a Memorial Ward in the Royal Infirmary of Glasgow. We have received a communication from Professor Jno. H. Teacher, M.D., Honorary Curator of the Museum, giving the outline of what the Glasgow Committee proposes to do. One of the wards of the Infirmary will be reserved and utilized as follows: One part will be refurnished as it was in Lister's time, while the other part will be made into a museum. It is asked that any who may have letters, pamphlets, books, or other objects of direct personal association with Lister and his work will either

present or loan them to the museum. Such letters, etc., etc., together with subscriptions, may be forwarded to Prof. Jno. Teacher, Royal Infirmary, Glasgow, Scotland.

MEDICAL AID TO SETTLERS

We understand that the Government of the Province of Alberta, in the North-West Territories, has appropriated \$4,000, to be given to two physicians for service in the northern parts of the Province, where the settlers are few and scattered over a large district.

We have heard during the last few years many harrowing tales respecting the sufferings of many people in sparsely-settled districts, in both Northern Ontario and the various Western provinces. The appointment of physicians to give aid to those pioneers who are doing so much for this country should meet with the approval of all. We congratulate the Government of Alberta on the step which they have taken, and hope that the Government of Ontario will do something of the same sort for the sparsely-settled districts in what is known as New Ontario.

THE CARE OF THE TEETH

The Toronto Health Bulletin for March is one of the most interesting that has been issued. One of the most important points considered is the care of the teeth especially among school children. It will surprise most people, as it does ourselves, to be told that a careful examination of the school children of

Toronto revealed the fact that 90% required attention and treatment. In consequence a Free Municipal Dental Clinic has been established at the south-west corner of Yonge and Grenville Streets, under the control of the Department of Health. Here children whose parents are unable to pay may receive treatment by fully qualified dentists from 9 a.m. to 5 p.m. daily excepting Sunday.

We are further told that Toronto is just twenty-eight years behind Germany in providing free dental treatment for school children. The first Dental Dispensary in Germany was established at Strassburg in 1885, and to-day there are between 75 and 100 cities in that country maintaining and operating free dental dispensaries. There are also from 15 to 20 free dental clinics in London, England.

There is much lack of knowledge among our citizens as to the importance of the first or so-called milk teeth. Faulty conditions of the permanent teeth are generally due to premature loss of the temporary teeth. In such cases the jaw becomes improperly developed and the children become "mouth breathers."

The early decay of teeth has increased in the past 100 years, but especially during the last 50 years. Authorities attribute this to improper food.

The Dental Clinic will be used as a Central Bureau of Information concerning the care of the teeth. Literature will be distributed from time to time for this purpose.

ASSOCIATION OF OFFICERS OF THE MEDICAL SERVICE OF CANADA

At the last meeting of this Association, at Ottawa, February 25-26, the following officers were elected for the ensuing year: President, Lieut.-Col. Jno. T. Fotheringham, Toronto; Vice-Presidents, Lieut.-Col. R. D. Macdonald, Sutton, P.Q.; Lieut.-Col. H. R. Casgrain, Windsor, Ont.; Lieut.-Col. G. M. Campbell, Halifax, N.S.; Secretary, Major Legatt, Ottawa, Ont.; Treasurer, Major Bell, Ottawa, Ont.

ADDRESS PRESENTED TO DR. ADAM WRIGHT

The following address was presented by the Toronto City Council to Dr. Wright on March 7th:

To Professor Adam Henry Wright, B.A., M.D., M.R.C.S. (Eng.):

We, the members of the Council of the Corporation of the City of Toronto, take advantage of the occasion of your retirement from the Chair of Obstetrics in the University of Toronto to extend our congratulations upon your completion of a term extending beyond a quarter of a century on the staff of your alma mater, and to place on record this acknowledgment of the eminent service which you have rendered to the cause of medical education in Canada.

Your unselfish devotion to the interests of the University, the Medical Schools, and the Hospitals of the city has long been conspicuous, and it is gratifying to this Council to know that your work has been recognized by your colleagues in the profession of which you are so distinguished a member.

Your election by unanimous vote to the high and responsible office of President of the Canadian Medical Association is perhaps the most pronounced evidence of their confidence in your professional knowledge and ability, while their recent gathering at a banquet in your honor truly indicates that your unvarying courtesy and kindness of heart have entirely won their highest regard and affection.

But it is as the practising physician that you are best known to the citizens at large, and we are glad to have the privilege, as their representatives, of expressing to you the affectionate esteem which your self-sacrificing and skilful ministrations have engendered amongst all classes of the community.

It is sincerely to be regretted that the University is to be deprived of your valuable experience and ability, yet there is consolation in the thought that you will in future be enabled to

devote more time to the alleviation of suffering in the course of your large and ever-extending practice.

That you may be spared for years to come to continue your chosen work, and that the future of yourself and the members of your family may be blessed with health, long life, happiness and prosperity, is the most earnest wish of your fellow-citizens.

Signed by the Mayor, City Clerk and City Treasurer on behalf of the Corporation.

ONTARIO HEALTH OFFICERS' ASSOCIATION

The Annual Conference of Medical Officers of Health for Ontario will be held at the Parliament Buildings, Toronto, on Thursday and Friday, May 29th and 30th next.

The following papers have been promised:

1. Duties of the Modern Medical Officer of Health. Chas. J. Hastings, Toronto; George A. Dickinson, Port Hope.
2. The Exanthemata. James Roberts, Hamilton; M. B. Whyte, Toronto.
"Diagnosis of Smallpox." R. W. Bell, Toronto.
3. Tuberculosis.
"Sputum Examination in Ontario." C. D. Parfitt, Gravenhurst; Duncan Graham, Toronto; Miss Eunice Dyke, Toronto.
4. The Milk Question.
"Essentials for the Production of a Safe Milk Supply." G. G. Nasmith, Toronto.
"Importance of Milk as a Food." A. W. Macpherson, Peterborough.
5. Disposal of Waste and Garbage.
In Cities—R. C. Harris, Commissioner of Works, Toronto.
In Towns—W. R. Hall, Chatham.
6. Disposal Domestic Sewage in Suburban and Rural Areas.
Robt. E. Wodehouse, Fort William.
7. "The Scope of Work in Home Hygiene." Chas. A. Hodgetts, Ottawa.
8. A Paper. C. N. Laurie, Port Arthur.
9. A Paper. John A. Amyot, Toronto.
10. President's Address. Adam H. Wright, Toronto.

Arrangements are being made for reduced railway fares. As there are about eight hundred and fifty medical officers of health in Ontario, the prospects are for a very large meeting.

Emerson Bull, W. H. Jeffs, George G. Nasmith, Committee on Papers. J. W. S. McCullough, Secretary.

NEWS ITEMS

A General Hospital will be built this season in Cochrane.

A new ward for women will be added to the General and Marine Hospital at Collingwood.

Another smallpox hospital was ordered by the Local Board of Health in Brantford, March 29th.

The 69th annual meeting of the American Medico-Psychological Association will be held at the Clifton Hotel, Niagara Falls, Ont., June 10 to 13.

The International Congress of Hygiene will be held in Buffalo, August 25 to 30, under the presidency of Dr. Chas. W. Eliot, of Harvard University.

An English-speaking conference on the Prevention of Infant Mortality will be held in London, England, August 4-5, immediately before the International Medical Congress.

The adjourned meeting of the Dominion Medical Council will be held in Ottawa, June 17th. It is hoped that final arrangements will be completed for carrying out the provisions of the Canada Medical Act at that meeting.

The new wing of the Berlin and Waterloo Hospital, costing \$30,000 was formally opened April 12 by Lieut.-Governor Sir John M. Gibson, of Toronto, who, nineteen years ago, as Provincial Secretary, laid the corner-stone of the hospital building, which, with the hospital property, is to-day valued at \$130,000. The new wing is equipped with the most modern appliances known.

The well-known portrait of Dr. Christopher Widmer, the first prominent physician connected with the Toronto General Hospital, was removed from the waiting-room of the old building to its new place in the Board-Room in the Main Hospital Building on College Street, March 28. The picture was hung in the old building in 1858. A committee of medical men of Toronto presented it to one of the medical colleges in that year, but as there were two schools then, and no particular one was mentioned, it was given into the custody of the General Hospital.

Personals

Dr. R. A. Stevenson, of Toronto, is expected home in May.

Dr. Geoffrey Boyd, of Toronto, went to Atlantic City on April 9th.

Dr. Herbert Bruce spent his Easter holidays at Atlantic City.

Dr. G. E. McCartney, of Fort William, paid a visit to Toronto in the latter part of March.

Dr. Charles O'Reilly, during his stay in Great Britain, was for two weeks in March the guest of Sir Lambert Ormsby, of Dublin.

Dr. W. P. Caven has forwarded to the Superintendent of the Toronto General Hospital his resignation of his appointment on the active staff, to take effect in May.

We understand that Dr. W. J. Roche, Minister of the Interior, who underwent an operation at St. Mary's Hospital, Rochester, Minnesota, March 11th, has quite recovered.

Dr. Emerson J. Trow, late Senior Resident Physician, New York Skin and Cancer Hospital, has commenced the practice of diseases of the skin at 21 Wellesley Street, Toronto.

Dr. F. C. Harrison, of Toronto, sailed April 19th for England. He will visit the leading medical clinics of England and Europe, paying particular attention to internal medicine and diseases of the skin.

Dr. R. E. Gaby, of Toronto, left for an extended trip to the Old Land. He will spend some time in post-graduate work in the hospitals and pathological institutes of Great Britain and the Continent.

We have much pleasure in announcing that Dr. John L. Bray, formerly a practitioner of Chatham, Ont., now Registrar of the Ontario Medical Council, who was seriously ill for some time, is now recovering, and has returned to work in his office.

We desire, also, to offer our congratulations to Dr. Bray on the fact that he has just completed fifty years in practice, having graduated from Queen's University, Kingston, in 1863.

We are much pleased to announce that Dr. Brefney R. O'Reilly is recovering from his recent illness—influenza, with certain mastoid complications.

Dr. J. Orlando Orr, of Toronto, is approaching the end of his foreign tour. He left Paris for Berlin, April 11th, and expected to remain there a week, then to London for one or two weeks, then sail for Canada, reaching home before the Middle of May.

Dr. J. R. Robertson and party, of Stratford, on their return from Egypt, went through Italy, Switzerland, Germany and France to London, reaching the latter city April 2nd. They sailed for home April 12th on the SS. Finland, and arrived in Stratford, April 24th.

Dr. A. H. Taylor, a son of Dr. Alex Taylor, of Goderich, has been appointed Superintendent of the General Hospital at Calgary in the place of Dr. Lincoln (resigned). The new Superintendent was born in Goderich in 1886, and graduated M.B. from the University of Toronto in 1908. He entered upon his duties April 1st.

The following appointments have been made to the Staff of the Medical Faculty of Toronto University in connection with the utilization of the public wards of the Western Hospital for teaching purposes: Dr. John Ferguson, Associate Professor of Clinical Medicine; Dr. S. M. Hay, Associate Professor of Clinical Surgery; Dr. A. A. Macdonald, Associate Professor of Obstetrics and Gynaecology; Dr. Price-Brown, Associate Professor of Laryngology and Otology.

It is reported that two very prominent and influential physicians of Ontario will soon be appointed members of the Dominion Senate at Ottawa. One is Dr. Edward Ryan, of Kingston, at present the President of the Ontario Medical Council; the other is Dr. H. R. Casgrain, of Windsor, Past President of the Ontario Medical Association, and at present a member of the Provincial Board of Health. We may say, without hesitation, that the appointment of these two worthy physicians would be very highly appreciated by the members of the medical profession in all parts of the Province of Ontario.

Obituary

W. O. EASTWOOD, B.A., M.D.

Dr. Eastwood, who practised for many years in Whitby, Ont., died March 22, aged 82.

G. A. PETTIGREW, M.B.

Dr. Pettigrew, of Peterboro, who practised at one time in Norwood, died March 4th, aged 68. He graduated M.B. from the University of Toronto, in 1870.

F. W. BIRKETT, M.D., L.R.C.P. (Edin.)

Dr. Birkett, of Ottawa, died at San Diego, Cal., aged 38. He was born at Ottawa, and received his medical education at McGill and Queen's, graduating from the latter institution in 1898. After practising for some time in Ottawa he went to California four years ago.

A. L. GALABIN, M.A., M.D., F.R.C.P.

Dr. Galabin, the well-known obstetrician and gynaecologist of Guy's Hospital, London, England, died from pneumonia, after a five days' illness, March 25, aged 70.

NORMAN KEACHIE McLEOD, M.B.

We have to announce with very deep regret the death of our young friend, Dr. Norman McLeod, which occurred in Buffalo, April 4th, from pneumonia, after about a week's illness. He was a Toronto boy, well known and very popular among all classes. He graduated M.B. from the University of Toronto in 1903. After graduating, he spent some time at laboratory work under the direction of Dr. G. W. Ross. He then went to Buffalo and engaged in practice with his elder brother, Dr. James McLeod. His success was marked and his prospects were very bright. In a few years he made a great host of friends in that city.

Book Reviews.

The Prognosis and Treatment of Diseases of the Heart. By R. O. Moon, M.A., M.D., (Oxon.), F.R.C.P.; Physician to the National Hospital for Diseases of the Heart; Assistant Physician to the Royal Waterloo Hospital. London: Longmans, Green & Co., 39, Paternoster Row, 1912.

No one can engage for long in the practice of medicine without discovering that Prognosis is the part of his work which gives him more anxiety than almost any other. As a rule, too, it is a part of medicine which is very seldom treated in text-books in a way that it can be of much service. In cardiac conditions, more than almost any other, the factor of prognosis is of the greatest importance. One runs across these problems so frequently in insurance work particularly.

The book before us will do much to correct this difficulty. It is written in a most readable and practical style. Definite indications are given on which prognosis should be based. The author has hopes that the electrocardiograph will do much to clear up the present guess-work which surrounds many of these problems. We can heartily recommend this small monograph. To read it is both a pleasure and a profit.

The Illness and Death of Napoleon Bonaparte. A Medical Criticism. By ARNOLD CHAPLIN, M.D. (Cantab.), F.R.C.P., London. Hirschfield Bros., Ltd., 263 High Holborn, W.C.

In our February issue we referred to this exceedingly interesting brochure by Dr. Arnold Chaplin, Glasgow. One of the chief points of interest in connection with Napoleon's last illness was the fact that no correct diagnosis was made until he was practically moribund. A few days before his death the chief physician assured the British authorities that there was no danger, that the disease was merely hypochondriasis, and that the cure would be slow, owing to the fact that the patient could not be given the thing he most desired—liberty.

The immediate cause of death found on post-mortem examination was cancer, affecting the lesser curvature of the stomach, which was ulcerated from the cardiac orifice to within an inch of the pylorus.

The price of this very readable little book is only 70 cents.

Annual Report on the Results of Tuberculosis Research, 1911.

By DR. F. KOHLER, Head Physician of the Holsterhausen Sanatorium, near Werden-on-the-Ruhr. Reprint from the Clinical Year-Book. Edited by Dr. Naumann, Wirkl. Geh. Ob-Reg-Rat und Ministerialdirektor, and Professor Dr. M. Kirchner. Twenty-sixth volume. Translated by Ronald E. S. Krohn, M.D., Lond. London: John Bale, Sons & Danielsson, Ltd., Oxford House, 83 Gt. Titchfield St., Oxford St., W. London. 1913.

In a short summary, the author gives all that is valuable of the various work done during the last year on tuberculosis. This makes the work most interesting to the research worker. One can hardly help remarking, however, that articles written in English, especially by those living on this side of the Atlantic, are not quoted in great numbers.

A Guide to the Description of Microscopic Sections of Pathological Tissues. By O. C. GRUNER, M.D. (Lond.). Price 35 cents. Poole's Bookroom, 45 McGill College Ave., Montreal. Murray Printing Company, Limited, 9 Jordan Street, Toronto. 1912.

For the instruction of students and for those doing pathological examinations, this little guide should prove most useful and necessary. Full instructions are given for the proper and systematic examination and report of the individual cells, tissues and organs of the body. We think every teacher of pathology would do well to see that his students study their work according to the system outlined by Dr. Gruner.

Lectures on Diseases of Children. By ROBERT HUTCHISON, M.D., F.R.C.P.; Physician to the London Hospital and the Hospital for Sick Children, Great Ormond Street, etc. Third edition. Toronto: The MacMillan Company of Canada, 1913.

An intimate knowledge of the diseases of children was not considered a matter of much importance in many educational centres some years ago. This was especially true as to London, England, where, even now, no special demand is made for an acquaintance with this class of diseases at the ordinary qualifying examinations. About ten years ago Dr. Hutchison delivered

a course of clinical lectures at the London Hospital, which were considered so interesting and instructive that he was asked to publish them in book form in 1904. The work was so highly appreciated that two editions were exhausted in a few years.

In the present (third) edition the whole book has been revised, and six new lectures have been added. The book is different from the ordinary style of text-books on pædiatrics, of which several excellent ones have been published in the United States in recent years. The author doesn't go over the whole ground, but he tells many things of vast importance, some of which are not treated in the more pretentious books. The lectures are clinical, and are models of their kind. The ordinary physician who takes a considerable interest in the ailments of infants and children (as every general practitioner should) will, we think, be very much interested before he has read many pages, and will probably read the whole book within a short time. We know of no way in which the young practitioner (or perhaps we should say the physician of any age) can spend his time more pleasantly and profitably.

The Blood. A guide to its examination and to the diagnosis and treatment of its diseases. By G. LOVELL GULLAND, M.A., B.Sc., M.D., F.R.C.P.E., Physician to the Royal Infirmary and to the Royal Victoria Hospital for Consumption; Honorary Physician to Chalmers' Hospital; Lecturer on Medicine at Surgeons' Hall, Edinburgh; and ALEXANDER GOODALL, M.D., F.R.C.P.E., Lecturer on Physiology and on Practical Medicine at Surgeons' Hall, and on Diseases of the Blood in the Edinburgh Post-Graduate Courses in Medicine; Examiner in Physiology to the Royal College of Physicians, Edinburgh. With 16 text illustrations and 16 colored plates. The Macmillan Company of Canada, Ltd., Toronto.

Books from Edinburgh are usually solid, and this volume is no exception to the rule. In a concise form the authors have put down the practical points relating to the examination of the blood, so that a busy physician can get what he wants in short order, and yet the student will find plenty of details for careful study. The book is, of course, up-to-date, and states theories only as working hypotheses, and not dogmatically, as is so often the case on this side of the water. An excellent and handy reference book.

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Handbook of Diseases of the Ear: For the use of students and practitioners. By RICHARD LAKE, F.R.C.S. (Eng.); Surgeon Diseases of Ear, etc., London School of Clinical Medicine, Surgeon, Seamen's Hospital and Royal Ear Hospital. With four colored plates and 77 original illustrations. Fourth edition, revised and enlarged. Toronto: D. T. McAinsh & Co. 1913.

The fact that this book has reached its fourth edition in less than ten years in itself proves that its merits are well recognized. The text is well written and not overburdened with technicalities, a point that will appeal to the general practitioner. The illustrations are all original, and are well selected. The colored plates, illustrating pathological states of the tympanic membrane, are particularly fine. As a book for students and practitioners, we consider this to be one of the best we have seen for some time.

Cesare Lombroso: A Modern Man of Science. By HANS KURELLA, M.D., author of "Natural History of the Criminal," etc. Translated from the German by M. Eden Paul, M.D. New York: Rebman & Company, 1123 Broadway. Price, \$1.50.

Lombroso is well enough known to every English-speaking physician to make his biography interesting. His friend and associate, Dr. Kurella, has given us a most delightful description of this man of genius; in fact, he has applied some of Lombroso's methods of analysis to Lombroso himself.

The history of this patient investigator is as interesting as a novel, and the translator deserves great praise for the excellent and readable English he has made out of the German. The views of Dr. Kurella on Lombroso's "spiritualism" throw a new light on the subject. This is a splendid book for half-hours of relaxation.

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Selections.

Alcoholic Delirium

Fuerer (*Berl. klin. Wochenschr.*). The belief that in chronic alcoholism the sudden and complete withdrawal of alcohol may lead to an attack of delirium tremens, is still widespread. The writer is convinced that this is an error. When it seems to occur, the fact always is that the delirium has set in before the withdrawal of the alcohol, and the appearance, to the contrary, is due to the ability of many such patients to conceal their condition for several days after its onset. In every case of chronic alcoholism the immediate and rigid withdrawal of alcohol is indicated.—*Interstate Med. Jour.*

Chemotherapy of Pneumonia

Engwer (*Zeitschr. fuer Hyg.*). The time may not be far away when pneumonia and allied affections will yield to a specific medicinal agent. In mice and guinea-pigs, Engwer has obtained notable results with acthyl-hydrocuprein, a substance related to hydrochinin. A considerable proportion of the animals inoculated with pneumococci survived if subsequently treated with this substance. The less severe the infection, the greater the proportion of the recoveries. The untreated controls all died, the pneumococcus being far more virulent for these animals than for man. The results were especially favorable if pneumococcus immune serum was given at the same time. The action of the drug consists not in the production of a leucocytosis, but in an extra-cellular destruction of the parasites. The treatment is not yet ripe for use in human beings, but it points the way to more decisive results. Levy (*Berl. klin. Wochenschr.*, No. 53, 1912) has obtained similar results in the streptococcus septicæmia of mice. It seems as though we would hear more of this drug.—*Interstate Med. Jour.*

Hypokinetic and Dyskinetic Constipation

The observations of the normal faecal movement and distribution by means of X-rays have led the way to a more minute study of the various forms of constipation. G. Schwartz (*Muench. med. Woch.*) records his observations in cases of



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chronic constipation. He divides these cases into two groups, the first of which shows some forty-eight hours after the intake of the contrast meal no formation of what he designates the globus pelvius, and an abnormally large amount of continuity. In the X-ray observations it is seen that the colon is often very long and much convoluted. The second group shows a globus pelvius after forty-eight hours, but the fæcal column becomes greatly segmented, and there is an increased retrograde action. The author gives brief clinical accounts of each type, and illustrates the cases by pictures representing the appearance as seen by means of the X-ray illumination. The first group he calls hypokinetic. The motility of the colon is not disturbed, but that of the cæcum, sigmoid flexure, etc., is markedly so. The second group he calls dyskinetic. Here the function is disturbed in the colon, and partakes of the type of an exaggeration of the normal power of detachment of portions of the fæcal column.—*B. M. J.*

Respiratory Signs in the Diagnosis of Gall Stones

Bahrtdt, *Münch. med. Woch.* The writer records a number of cases of cholecystitis and gall-stones in which the first symptoms to attract attention were in connection with the respiratory system, so much so that at first a bronchitis or even a pneumonia was the diagnosis made.

In each case there were recurrent attacks of fever associated with slight dulness and crepitations at the base of one lung, but in no case was there any pleuritic friction; the latter point the author considers important. During these attacks the patient appeared somewhat ill; the urine, however, showed no abnormality; the liver dulness was not enlarged, and there was no appreciable tenderness in the right hypochondrium. In all the cases the pulmonary signs seemed inadequate to explain the height of fever and general appearance of the patient, and left the writer with the impression that he had failed to come to a true diagnosis of the case. Then, suddenly, after one of those feverish attacks, slight and transient jaundice appeared. In the next attack there was again jaundice, this time accompanied by a slight rigor in addition to the signs of bronchitis formerly referred to. In this attack, pain in the right hypochondrium and in the back was so characteristic as to leave no doubt that there was cholecystitis. In one case, after 16 such attacks, a large gall-stone was passed by the bowel, and thereafter the patient ceased to suffer from the recurrence of the feverish attacks and

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their accompanying pulmonary signs, and has remained free of them for seven years. In these cases Bahrdt distinguishes three periods:

(1) Stage of occult cholecystitis: without characteristic pains, without jaundice, only attacks of fever and pulmonary symptoms. This represents the stage of infection of the biliary passages, but not the presence of stones.

(2) Stage where, in addition to the fever, there is characteristic pain, but as yet no jaundice: a gall-stone has entered the cystic duct and stuck there.

(3) Stage where severe pain and jaundice accompany the fever: the stone has entered and is obstructing the common bile duct.

In all three stages the pulmonary symptoms are the same and cease with the colic or the disappearance of the jaundice.

In endeavoring to explain the connection between the biliary and bronchial troubles, Bahrdt discusses several hypotheses. The intimate lymphatic connections between the liver and the diaphragm pleura are well known. In all the instances in which the lower lobe of the right lung was affected there was, however, no evidence of any pleuritic irritation. He therefore discounts a lymphatic spread of infection. Apart from infection, a degree of collapse in the right lower lobe, owing to pressure from an enlarged liver, might have explained the pulmonary signs, but in no case was there any clinical evidence of hepatic enlargement. He favors a blood infection of the lung, the result of absorption of infective material from the biliary passages and duodenum.—*The Medical Chronicle*.

Herpes Zoster and Varicella

Hein (*Berl. klin. Wochenschr*). The eruption of chickenpox may exceptionally take on the typical characteristics of a herpes zoster. Hein reports such a case. A woman was taken ill with herpes zoster. Ten days later, her child became ill with varicella, and a second child, who had been away from home until four days after the beginning of the mother's illness, took sick with varicella twelve days after its arrival. As the second child's illness began only six days after that of the first, both infections must have been derived from the mother. The diagnosis in such cases is possible only on the basis of their infectiousness.—*Interstate Med. Jour.*

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arily well able to grow and prosper, requires the gardener's hose intelligently applied to keep it from withering; just as a young sapling bent by the winds or by some abnormal defect can be made to grow straight and strong by propping it up until it grows stronger; just as certain soil requires fertilizers, so does the human plant require the specific aids its defects demand. The plant needing fertilizers or water will not be saved by prayer or massage or Christian Science; nor will the human plant, needing calcium or iron, find a substitute in electricity or in jolly disposition or wish. As to those who do not like to give drugs (usually from ignorance of their value or application), faith curists, Christian Scientists, osteopaths and other 'pathists,' who start out prejudiced against any other treatment than their own exclusive pathy, they have indeed a very narrow point of view from which they study Nature. The physician of to-day, trained as a true student of Nature, recognizes no exclusive road or pathy; every new instrument, drug, application or method, psychic or otherwise, is only one more weapon in his great armamentarium; nothing is so insignificant as to be despised if it can aid. The unfortunate sick are indeed to be pitied if they fall into the wiles of one of these one-sided 'ists' who boasts of the greater value of his 'ism' and fails properly to appreciate Nature's harmonious forces used with intelligence to suit each case. A physician graduating from our modern medical schools, where he is trained in all the sciences and taught the relative value and place for each, has an effectiveness compared to one of these pathists as the music of a full orchestra compared to that of the single string of a fiddle. There are times when a specialist is required—one skilled in one of the branches of our art. He should, however, not be credited with greater knowledge or skill than his attainments warrant. I say this not in disrespect to any 'ism' or 'ist,' but because it is necessary to show the comparative merits of regular physicians whom some of these pathists aim to discredit and displace."—Rosewater, *Cleveland Med. Jour.*

The Invalid's Kitchen

The well-known Berlin dietetician, Sternberg, belabors the so-called scientific method of feeding the sick in vogue among certain specialists; he inveighs against the host of expensive and nasty chemical products that are recommended to the sick and so freely advertised. Besides the excessive prices charged, and the nasty taste and smell, they destroy the taste of every dish with

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which they are mixed. They destroy the appetite instead of increasing it. Appetite is the first essential in feeding up, if this is required, as it undoubtedly is in some wasting diseases. Sternberg says that no laboratory food should ever be given to a sick person, whilst the healthy have sufficient sense never to try one. The principles of the invalid's *cuisine* are these:—(1) Pleasant taste. Every non-professional person instinctively tempts the appetite of the sick by getting some delicacy; the professional adviser must follow this instinct. (2) The helpings must be very small: no piled-up plates of roast mutton, boiled potatoes and greens. (3) Everything must be of the freshest and best quality and dished up at just the right temperature—cold stewed fruits must be cold, not lukewarm, and hot dishes must be hot. (4) The individual taste of the patient must be consulted. (5) Variety is essential. Sternberg gives physiological reasons for these principles. Incidentally, he declaims against the pedantic and pompous use on the part of some modern dieteticians of such words as *sitiology*, *sitiognoey*, *sitiotechnique*, *sitiodynamic*, *sitiopoiology*, etc.! (*Prager med. Wochenschrift*, No. 4, 1913.)—*Universal Medical Record*.

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The Glyco-Thymoline should be used full strength. In local cases a good way is to keep a soft cloth moistened with Glyco-thymoline applied to the parts; this is almost certain of good results.

The Etiology and Pathology of Influenza

Jundell (I.), *Hygiea*. The author concludes that the true connection between Pfeiffer's *bacillus influenzae* and what is clinically known as influenza is still uncertain. Influenza occurs freely in Stockholm, an average of over 90 cases having been reported annually among the poor for the last ten years. Jundell has examined the sputum of 29 patients with influenza (1903-09) but could grow Pfeiffer's bacillus in only three cases, using blood-agar. Similar inability to recover the bacillus in cases clinically diagnosed as influenza has been reported in other countries of recent years; Pfeiffer's bacillus, even when present, has been found with a difficulty in striking contrast to the ease with which it used to be found in years gone by. He records a case of fulminating influenzal meningitis in a seven-months-old female infant, with chronic hydrocephalus. The child weighed ten pounds, and appeared to be in good health, free from cough or coryza; it slept well half the night, but early in the morning had a succession of convulsions for six hours, followed by drowsiness and death in an hour. Post-mortem greenish-yellow pus was

found at the sides and base of the brain, and gave a pure culture of *B. influenzae* on blood-agar, while ordinary agar showed no growth. The ventricles of the brain contained an excess of clear fluid; the ependyma was normal. No pus was found in the ears or ethmoid cells.—*The Medical Chronicle*.

Paper Towels

Paper is perhaps the most generally useful of all civilized products, a fact that is beginning to dawn upon the men of commerce. It has long been part of the stock knowledge of journalism that the wheel of a railway truck and a host of other articles, solid and flimsy, can be made out of paper. It is, above all things, the index of civilization. As its name indicates, it originated in the desire of man to reduce his vocal words to a script language. The papyrus used by ancient man preserves to us some of the earliest specimens of the handwriting of mankind hitherto discovered. Earlier records are simply those of the early cave dweller, who drew rough outlines of birds and beasts and so on upon bones or other convenient surfaces suitable for sketching. From that time to the twentieth century is a far cry. Paper has long since travelled wide of its original purpose. For instance, it is used largely for making collars, cuffs and shirt fronts. It is widely popular in the shape of tablecloths and table napkins and for various other domestic purposes. One of the latest developments is the introduction of towels made of paper crêpe. In actual use they are said to be just as handy and efficient as the ordinary huckaback towel, while they are far more economical, for each paper towel costs less than the price paid for the mere washing of its linen predecessor. From a hygienic point of view the paper towel appears to be irreproachable. It may be well to add that in public dressing-rooms it is well to look after the soap as well as the towels. A good plan is to rinse the soap before using it—or even to carry about a cake of soap in an aluminum box for personal use.—*The Medical Press and Circular*.

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The Canadian Practitioner and Review

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Original Communications

THE PHYSIOLOGY AND PATHOLOGY OF THE INTERNAL SECRETORY ORGANS*

BY JOHN FERGUSON, M.A., M.D.,
Senior Physician, Toronto Western Hospital.

Mr. President and Gentlemen:—

On the 7th of January of this year I took part in a discussion before the Toronto Academy of Medicine on septic peritonitis. My old friend, Dr. W. B. Hopkins, shortly afterwards wrote me asking me to visit the Medical Society of Hamilton some evening and make a contribution to your programme. Ere I had answered this note I met another old friend and former student, Dr. Marshall Gillrie, who also extended a cordial invitation to spend an evening with the doctors of Hamilton. I accepted and so I am among you.

Diseases and injuries fall readily into several large groups: those which clearly belong to the surgeon and demand surgical treatment; those diseases which are essentially of a degenerative type, a sort of abiotrophy of certain tissues of the body; those that are caused by one or more of the many infections, and a very important group resulting from some form of disturbed metabolism. It is on a certain number of this latter group that I propose offering some remarks to-night, and chose for this purpose the title "The Physiology and Pathology of the Internal Secretory Organs" as the one upon which I could best hang my thoughts. I know full well that anything I may be able to say in the time at my disposal can do no more than touch upon the

* Read at the Hamilton Medical Society, 6th March, 1913.

fringe of the subject and raise a discussion on a few of the essential points of the many problems arising out of a study of the chemistry of the human body, as revealed by the workings of the internal secretory glands in health and disease.

It has been known for a long time that there was an agreement or harmony of action between the organs of the body, and this interaction action of function has been called the *consensus partium*. Until comparatively recently, however, the haziest ideas prevailed as to how the individual organs react upon or influence each other. Descartes, in the 17th century, laid down some valuable rules as to the reflexes, but it was not until the teachings of Prochaska, in the 19th century, that the position of the nervous system became fully established in the co-relation of function. But though this nervous theory of the *consensus partium* is logically sound, it is necessary to look further for the cause of this nervous activity. There must be an appeal to the humoral theory in its modern and scientific acceptation. The blood plasma plays an all important part.

Bordeu, who lived in the second half of the 18th century, considered that the changes which take place after the removal of the sexual organs were due to the lack of some secretion. A great step forward was taken when Johannes Müller, the physiologist, pointed out the distinction between secretions and excretions, namely, that the former meant the specific substances formed by organs, whereas the latter was the term to use when these substances exchange their places to some other part of the body. He spoke of secretory cells, membranes and glands, and among the latter included the spleen, the thyroid, the suprarenals and the placenta. To the work of Berthold in 1849 too much value cannot be attached. He was the first to prove by experiment the influence a gland had upon the composition of the blood that flowed through it and away from it. He proved that by grafting the testicle of the cock into another part of his body he retained the male characteristics of voice, growth of wattles, reproductive instinct, and fighting spirit. Here we have complete proof of an internal secretion. Some ten years later Claude Bernard gave to the world his teachings on activities of the glands. He held that two very important processes occurred by their agency. The first he called secretion *externe*, by which substances were withdrawn from the blood and taken into the glands; and the second was named secretion *interne*, or the reverse process, by which these glands gave out important substances to the blood. As an example of these he cited the

functions of the liver in producing an external secretion or bile, and an internal secretion, the glycogen. In 1869 Brown-Séquard announced the view that all glands, whether they had ducts or not, contributed substances to the blood, the absence of which was revealed by signs of disease. It was just twenty years later that have made known the influence of the subcutaneous injections of testicular extract. To him belongs the unique honor of proving glands yielded products that, set free in the blood stream, had far-reaching influences on other organs of the body. On this work of Brown-Séquard, Hansemann, a German physiologist, advanced the theory of cell altruism, or that cells of one organ give origin to something that influenced the cells of other organs. This was carried into practical use by the rather crude employment of organotherapy under the term isopathy, by which the corresponding organ of some animal was fed to a person suffering with disease of that organ.

Thus it will have appeared that there are two agencies at work, the nervous system and the blood stream. The former, through its many and complex reflexes, brings about rapid adjustments, while by the latter, each organ, tissue and cell exerts a specific action on other organs, and thus maintaining the equilibrium of the various parts. But in the working out of these processes intermediary bodies are frequently formed. As an example of this, when the acid contents of the stomach enter the duodenum, the mucosa is stimulated to the production of a substance, called secretin, which, through the blood, causes the liver to form more bile, the pancreas to throw out more juice, and urges to increased activity the intestinal glands. To these intermediary and stimulating bodies Bayliss and Starling have given the name of hormones. All organs that influence the activity of other organs are said to be hormone producing; or, in the words of Schiefferdecker, they are internally influencing organs. It must be clearly borne in mind that the term internal secretion applies to some active chemical substance, and does not refer to the work of the spleen, the bone marrow, or the lymph glands in the formation of the blood. This latter function is not an internal secretion, but the formation of the elements of the blood as such.

It has been held that only those glands which contain epithelial cells can be regarded as coming within the meaning of internal secretory organs, but this is placing too severe a limitation upon their number, and is not borne out by modern physiology. A true internal secretion can be obtained from chromaf-

fine tissue which is not epithelial in origin or appearance. The attempt to limit the formation of the internal secretions to such portions of the body as the thyroid, the parathyroids, the epithelial portion of the suprarenals, the glandular portion of the hypophysis, is unsound. It must be kept in mind that the direction in which a secretion is discharged is of the first importance. The testicle discharges the seminal fluid with the spermatozoa in one direction, while the internal secretion of the testicle takes an entirely different route; and the same may be said of the pancreas and the liver. These organs have two entirely independent secreting surfaces. For the present such chemical products as antitoxins, precipitins, lysins and all those active offensive and defensive substances resulting from the stimulation of the tissues and cells of the body by the presence of poisons and infections should not be admitted to the list of internal secretions. By the latter should be understood the interrelationships which are maintained between the several organs without the presence of external stimuli.

Berzelius described secretions as of two kinds. The secretorial class contained those which are calculated to upbuild the body, or stimulate some organ into useful activity, and the excrementitial class included waste products such as are eliminated by the lungs, kidneys, skin, or liver. The process of internal secretion consists of two quite different chemical operations. In the first place there is the formation of the secretorial secretions or the hormones which are directly required and made use of by other organs; and, secondly, there is the indirect action of many organs of the body in removing from the blood effete ingredients and holding them for a time until they have again become useful for some physiological purpose. Such organs are the lymph glands, the liver, the spleen, and the bone marrow, which act as filters for tissue waste, broken blood corpuscles, and pigmentary bodies. These particles are fixed for a time and undergo changes that fit them again for service. But there is still another form that this indirect method of relieving the body of waste and toxic products assumes. The secretory glands produce neutralizers; and thus we have the affinity of benzoic acid for glycocholic acid, carbonic acid for urea, and the toxic phenol bodies for the ethyl sulphates. Of a similar nature is the great work of the liver in converting the toxic ammonia compounds that come to it into the comparatively non-toxic urea. The experiments of Eck, whereby he turned the blood of the portal vein into the vena cava and produced severe

poisoning in his dogs, as shown by spasms and coma prove this. In such dogs the liver had no opportunity of changing the ammonia content of the blood into urea, and the urine contained an excess of ammonia, while the urea was markedly decreased.

But it is necessary to dip deeper into the working of the internal secretory glands to grasp the true meaning of what is taking place in the chemistry of the body and, consequently, what will be the physiological results. It is now known that certain ions are inhibitory, while others are stimulatory. If there should be a deficiency of an inhibitory ion, the normal amount of a stimulatory ion might give rise to symptoms of grave derangement or intoxication. It is thus made clear that spasm, for example, is not necessarily due to an excess of some constituent in the blood, but to a defect of some controlling constituent or ion. Loeb has shown that were it not for the presence of the calcium-ions in proper amount the muscles would be in a state of constant spasm. These ions are inhibitors. The symptom complex of some diseases may not be caused by an excess, or an autointoxication, but a defect of some important product or hormone. This knowledge lies at the foundation of organotherapy, either by the administration of the active principles of the glands or by the transplantation of the glands.

From what has been said the work of the internal secretory glands may be regarded as twofold: The formation of nutritive products and regulating products. The former build up the body, and the latter act as controllers and are the true hormones. The intestinal glands busy themselves on the foodstuffs that have been ingested. The products of this activity enter the blood and lymph streams. The ultimate form of these products is dependent upon the true hormones, which act in two ways, namely, anabolism and katabolism; or the building up of living tissue, or its decomposition. Each stimulus to anabolism necessitates a stimulus to inhibition of katabolism, and the reverse. According to Hering, the hormones are of two kinds, as they either promote assimilation or disassimilation. Every action means a katabolism and must be accompanied or followed by an anabolism, or exhaustion must be the inevitable result. Some substances act as sort of pseudo-hormones. An excess of albumin in the circulation acts as a stimulus to its own katabolism. Oxygen taken in through the lungs acts as a hormone, though not the product of glandular activity. Two classes of products exist, namely, those that are the waste-end—or by-products—of glandular activity, and those that are the result of synthetic pro-

cesses. In the latter class are the bodies that act as true hormones, although some of the former class act also as such. Hormones of the synthetic group act in minimal quantities, while the end-products of metabolism may be present in large amounts. Hormones have two qualities in common, that they do not require a period of incubation, but act at once, and that they do not stimulate the production of antibodies. Starling has paid a great deal of attention as to the method of action of these bodies. He concludes that what has been regarded as the automatic action of the nervous system in most instances is due to the stimulation of some one of these bodies upon a nerve centre that has a sensibility to it. Formerly it was held that when one organ acted upon another the action was the result of some activity originating in the nervous system. Now it is held by many that such action on the part of the nervous system is dependent upon chemical agents. The words of Schiefferdecker state the modern view. "Internal secretion," he says, "determines the effect which the products of metabolism, excreted by the nerve cells during the simple process of nutrition, will exercise upon other nerve cells or upon the cells of the end organ, such activity being called 'trophic.' It also determines the effect which the products of metabolism excreted in the course of specific activity will produce, and this effect is known as 'irritation' or 'stimulus.'"

The internal secretory glands have been classified according to their function, their anatomy, or their histology. The most convenient division is into those with ducts and those without, or the purely vascular glands. Those possessing no ducts include the thyroid, parathyroids, the thymus, the suprarenals, the interrenals, the carotids, the coccygeals, the pituitary, the pineal, and the spleen. Those possessing a system of excretory ducts are the sexual glands, the pancreas, the intestinal and gastric mucosa, the kidneys and the liver. For a brief space let us look into these various glands in health and disease.

The Thyroid Gland.—The chemistry of the thyroid gland has been well studied by a host of investigators. The gland contains a large amount of iodine in combination. The entire organ contains from 2 to 9 mg., but for the adult healthy gland the average is 6 to 7 mg. In the fœtus there is no iodine in the gland. In children from 1 to 10 the amount is .145 mg.; from 10 to 25 it averages 2.45 mg.; from 25 to 30 it is about 8 or 9 mg., while after 50 it gradually decreases and drops to about 4 mg. In the gland there are present albumins and nucleo-

proteids containing albumose, leucin, xanthin, hypoxanthin, paralactic acid, and succinic acid. Phosphorus is also found in these albumoid compounds. Under iodine treatment the amount of iodine found in the gland may be increased to over 15 mg. The absolute amount of iodine in some goitrous glands may be as large as 50 to 100 mg. The amount of iodine is in proportion to the colloid content of the gland, and if there is marked colloid degeneration the iodine is distinctly reduced or may disappear. In some instances of Graves' disease where there is advanced cell degeneration, the iodine is often greatly lessened in amount. The thyroid contains about 8 to 10 times more iodine per weight than any other organ. To the combination of iodine with an albuminoid Baumann gave the name of thyroïdin, which was afterwards changed to iodothyrim. According to Oswald, the gland contains two albuminoid compounds, namely, the iodine-thyroglobulin and the phosphorus-nucleo proteid. Iodine-thyroglobulin forms from one-third to one-half of the normal gland and about three-fourths of colloid goitres by weight. In hyperplastic goitre and the goitre of Graves' disease the iodine globulin may be decreased, while the nucleo-proteid containing phosphorus is increased. As the degenerative changes advance the amount of iodine in the thyroglobulin steadily becomes less, and when there is no colloid substances no iodine is found in it. The production of this iodine thyroglobulin is the main function of the thyroid gland. In Graves' disease the iodine content is sometimes reduced, but this is explained on the ground that the storage power of the gland is lost. The union of the iodine and the thyroglobulin is an unstable one.

A vast amount of effort has been devoted to the discovery of the physiological actions of the thyroid body. One of the views held was to the effect that it regulated the amount of blood that reached the brain, either as a receptacle for the blood, or by rapidly influencing blood pressure through its active principle. There is no foundation for this view. Again, it was taught that there was an intimate relationship between the thyroid gland and the sexual organs. Here there is solid ground for the position that there is a genuine relationship. When the thyroid is removed from young animals of either sex there is a marked arrest of development in the ovaries and testicles. There is also an arrest of general development, and a condition of chronic cachexia results. There is a marked retardation in the growth of both bone and cartilage, in which the long bones, those of the pelvis and the spinal column suffer most, and those of the skull least. The pituitary gland shows a marked tendency to hyper-

trophy. There is also lowered condition of mental activity, that is suggestive of cretinism. The vascular system also suffers, and the arteries are small and often atheromatous. There is a decrease in the number of red blood corpuscles and in the amount of hæmoglobin, while the white corpuscles are decidedly increased. The mononuclears and eosinophiles are increased. When the thyroid gland is completely removed in adult animals there is marked emaciation and profound cachexia. Changes occur in the hypophysis cerebri. If the animals live for some time this gland is found to be enlarged, sometimes as much as three or four times its normal size. The gland becomes more vascular, and there is a vacuolation of the cells, with an increase in the amount of protoplasm and colloid matter. In thyroidectomized animals there is a markedly lower capacity of the metabolism of albumins. With regard to carbohydrate metabolism, much difference of opinion exists. It has been held by many that glycosuria follows removal of the gland. Others do not agree with this view, but this to some extent may be accounted for by the animals living long enough to enable the usual hypertrophy to occur in the pancreas. It has been shown that the glycosuria that follows removal of the pancreas is arrested by the removal of the thyroid. The removal of the thyroid also profoundly affects the sympathetic nervous system, as manifested by a sluggishness of circulation and trophic disturbances. In such cases the administration of adrenalin induces only slight rise in blood pressure and is not followed by the usual glycosuria that results in an animal whose thyroid is present and normal.

Disease has also been enabling careful observers to reach the truth. In 1873 Sir W. Gull, in 1877 W. Ord, and in 1879 J. M. Charcot described the conditions that arise from lack of activity in the thyroid. Similar conditions have been observed to follow the removal of the gland as a treatment of exophthalmic goitre. These observations show clearly the physical and mental changes that appear when the gland fails to perform its function. Hypothyrosis may occur in the very young, as a congenital or acquired condition, and give rise to infantile myxœdema. Endemic cretinism falls in here. The conditions of adiposis dolorosa and infantilismus dystrophicus are among the conditions also caused by defective thyroid activity. A careful study of infantilism has revealed the close relationship between the thyroid, the hypophysis, the suprarenals and the generative glands. In many cretins the thyroid appears of normal size, but there is lack of function, as proved by thyroid gland therapy. Two points should be noted. One is that after the removal of part of the

thyroid for the cure of Graves' disease, the portion left may hypertrophy and the symptoms of the disease return. The other is the reverse of this, and is caused by the atrophy of the portion left and the onset of the condition of thyropriva. In conditions of hypothyrosis the administration of the thyroid extract is productive of remarkable changes. There is a complete change in the metabolism of albumin. The nitrogen excretion is greatly increased, derived mainly from pathological deposits, which disappear. With this there is marked improvement in the output of energy. In addition to the foregoing effects, the preparations of the gland have a marked influence upon the reduction of fat. This was pointed out by Magus-Levy. Through the circulation these preparations are physiological diuretics. The blood pressure is reduced and there is more or less tachycardia. This latter is likely due to the large amount of iodized albumin contained in the thyroid. Among the results of experimental hyperthyroidism may be mentioned these: emaciation, increased oxidation, increased requirement of albumin, polydipsia, polyphagia, polyuria, and glycosuria. Along with these there are derangements of digestion, such as diarrhœa and intestinal hæmorrhages. There may be trophic changes, as swellings of the connective tissue.

One of the most remarkable examples of the power of an internal secretion is to be found in Graves' disease. The enlarged gland, the rapid pulse, the excitable vascular system, the roving glance, the irritable state of the nervous system, the open eyelids, the prominent eye, abnormal appetite, increased metabolism, slender fingers, thin skin, insomnia, mental whirl, intensified sensation, restlessness, tremor, sensation of heat, loss of weight, and shallow respiration show this.

From what is known of the action of the thyroid gland when administered, it becomes clear that this group of symptoms is caused by the body being flooded with thyroid substance. This has an elective influence upon the nervous system and upon certain other glands, the pituitary, the thymus, suprarenals, and sexual glands. Whether the disease owes its origin primarily to derangement of the nervous system or of the gland itself is still disputed. The frequency of its occurrence in women, the co-existence in many cases of derangement of the sexual organs, and the fact that the status thymicolymphaticus is so often present, go a long way in support of the theory of Biedl that the disease is neurogeno-thyrogenic in origin. Blum and many others have argued that the function of the thyroid gland is antitoxic and that it does its work within itself. They claim that its secretion

neutralizes toxic products that are brought to it. This theory must now be abandoned for the other one that the internal secretion of the gland is thrown into the blood and acts on distant portions of the organism by stimulating the nervous system, and by acting as a hormone on other glands. That the thyroid gland is a powerful katabolic force in the body must be admitted. Its influence on metabolism, the heart, the nervous system, and certain internal secretory organs, is abundant proof. Other phenomena suggest that it is also anabolic to certain organs. The promotion of skeletal growth, the development of the sexual organs, the limitation of the internal secretory action of the pancreas, go to show that it produces an assimilatory hormone. But it must be borne in mind that a single hormone might give rise to katabolism and anabolism as it acts upon the sympathetic or the autonomous vegetative nervous systems; and these are antagonistic to each other.

The Thymus Gland.—This gland increases in weight up to the age of 15, and gradually decreases thereafter. At birth it weighs 13 grammes, at 15 it is 37 grammes, at 60 it weighs only 6 grammes. The thymus undergoes rapid reduction in size during starvation. The thymus may remain large, the condition known as persistent thymus. According to Schaffer, this is due to the formation of a new cortical layer around the original medullary substance. In 1858 Friedleben made a series of experiments upon animals and collected the work of others. Since then a number of observers have removed the gland and watched the results. As the result of these experiments several conclusions may be drawn. One of these is that the gland inhibits the development of the testicles, and by the time these are mature the thymus has undergone considerable reduction in size. Basch found that, when he removed the thymus in young animals, in about three weeks the bones began to soften and become pliable. The gait of the animals was straddling, and they would sit most of the time on their haunches. The hind legs weakened first, and this was followed by weakening and binding of the fore legs. There was also considerable loss in weight. When a bone was broken the formation of callus was very imperfect. On microscopic examination there was marked retardation of ossification. The nervous system becomes more sensitive to the galvanic current. The injection of thymus extract reduced this excitability, so also did suprarenal extract. This hyperexcitability to the electric stimulus may be due to the removal of parathyroid tissue, as these are often associated with the thymus.

When a watery extract of the thymus is injected into the veins of a dog there is acceleration of the pulse and a reduction of arterial tension. There is an enfeebling or paralyzing of the vaso-constrictors, while the acceleration of the heart is due to the direct action of the extract upon the heart muscle. The arrest of respiration and cardiac action are due to the peripheral vasomotor paralysis. This activity continues throughout the persistency of the gland. Heavy doses of the extract give rise to thrombi in the vessels.

In instances of the thymus being hypertrophied sudden death may result from a toxic dose of the active substance. Formerly the view was held of a condition known as *asthma thymicum*. This was denied by Friedleben. Grawitz thought that these cases of sudden death in children were caused by the pressure of the enlarged gland on the trachea. Paltauf held that there was a constitutional anomaly in those with enlargement of the gland. Svehla took the position that *mors thymica* of children was caused by an overdose of the gland secretion. Bartel has recently reported a number of cases with the post-mortem findings. He has named the condition *status thymico-lymphaticus*. The fascia was well developed, the height was usually above that for the age, there was marked hyperplasia of the lymphatic glands, the bone marrow was red, and there was an enlarged thymus. The aorta was small, the heart was much under size, the brain was large, the bones were fragile, the thyroid showed colloid degeneration, the genital organs were poorly developed. The resistance of these subjects is very poor to accidents, inflammations, infections, or shock. Hedinger found that 12 out of 15 cases of Addison's disease also had the condition of *thymicolymphaticus*.

The Parathyroids.—These glands are situated close to the thyroid, but are quite independent of it in development. Usually there are four of these bodies, and are spoken of as a posterior superior and an anterior inferior gland. There may be accessory parathyroids, and these may extend to the cavity of the thorax, and not infrequently be found beside the thymus gland. When these bodies have been removed in one to three days there is a falling off in the appetite, thirst increases, the temperature may fall, the number of red blood corpuscles is diminished, and later on hypersensibility of the peripheral nerves and fibrillary twitches of the muscles around the face. The temperature may rise to 106 or 108 F.

The tetany may come on shortly after operation and be temporary, owing to injury to the parathyroids or interference with their blood supply, and pass off in a short time. The parathy-

roids may be removed in part or otherwise impaired in function, and tetany not appear until pregnancy occurs, should the subject be a female, as there is a correlation between the generative organs and the parathyroids in this regard. In children hæmorrhages may occur in the parathyroids and cause tetany. Tetany may be caused by a transient lesion and the glands found normal after death. In cases of tetany of gastro-intestinal origin, or due to some poison, or from some nervous disease, there may be an insufficiency of these glands. It is now held by many of our best clinicians that such diseases as myotonia congenita, paralysis agitans, and myoclonia are instances of hypoparathyroidism; myotonia periodica and myasthenia gravis are caused by hyperparathyroidism. It would thus appear that myasthenia and tetany are opposite conditions and are not primarily due to nervous or muscular derangement. Chvostek contends the tetany is caused by hypo while myasthenia is the result of hyper-function of the parathyroids.

Very many, including Schiff, Eisberg, Halstead, Harvey, Walbaum, Camus, and others, have found that tetany may be relieved by implanting the parathyroids into the tissues of the affected animal. Eisberg has successfully performed implantation in the case of a woman suffering from tetany. The parathyroid was secured from a person who had an operation on the thyroid. The tetany was reduced to occasional spasms. So far the administration of parathyroid extract, either by mouth or by injection, has not yielded very satisfactory results, though Halstead has reported a favorable case. The watery extract of parathyroids when injected increase intestinal peristalsis and muscular contraction of the uterus, and there is at first a fall, changing into a rise of blood pressure. When large doses are given there is a fall in blood pressure, some acceleration in respiration, and a marked diuresis, up to ten times the normal, caused by stimulation of the renal epithelium. But while there has as yet not been much encouragement from the administration of the extract of the parathyroids, very satisfactory results have followed the use of thyroid extract. When the thyroid gland extract is pushed freely and over a long period there is abatement or entire cessation of the tetany. Kocher states "that by energetically pushing the thyroid extract and iodothylin in large doses there was a cessation of the attacks." After making due allowance for the presence of parathyroid matter in the thyroid extract, and for the fact that improvement and relapses are not uncommon in tetany, there still remains solid ground for believing that thyroid extract is of much value in

this serious condition. The time so gained may enable any parathyroid tissue present to regain full activity, or permit of transplantation.

As to the relationship of the thyroid and parathyroids three things are clear: First, there is the undoubted value of thyroid extract in tetany; second, there is the fact that after removal of the thyroid gland the parathyroids hypertrophy; and, third, there is enlargement of the thyroid after removal of the parathyroids. These enlargements are likely in some way compensatory, and there is in all probability a vicarious activity between the two.

A great deal of study has been devoted to the discovery of how the tetany is produced after the removal of the parathyroids. It has been thought by some that there was a toxin in the blood. This view has been urged by Meyer and others. They show that the serum of a tetanic dog is toxic to mice. Biedl has also shown that free blood-letting controls the spasms, and that this improvement is maintained by transfusion of fresh blood. Cevi and Besta tried to immunize animals by using the serum of an animal at the height of an attack and using the immune serum on dogs that had been operated upon and the thyroid and parathyroids removed. This serum modified some of the symptoms, but the course of the disease was but little altered. Beebe has advanced the theory that there is generated a toxic agent due to altered metabolism, and that there is an increase in ammonia excretion. Fronin found in the urine an excess of ammonia and carbonic acid. The investigations of Loeb, Reuss, Netter, McCallum and others have shown that there is less calcium salts in the nervous system than normal, and that the administration of calcium lactate or acetate by mouth or into the veins controls the convulsions, but does not cure the condition. It cannot as yet be assumed that tetania parathyropriva is caused by a deficiency of calcium ions. As to the modus operandi of the poison much research has been made. When the nerves of the leg have been severed the tetany in the leg ceases. If the spinal cord is cut the hind limbs will show rapid clonic movements, but no tonic spasms. When the motor cortex of one side is removed, the muscles of the opposite side are much more intensely affected. As the result of these experiments by Faulstich, Ridinger, Lanz, and Biehl, it may be said that there is some irritability of the nervous centres and the peripheral nerves connected with them. It is not possible to define as yet the exact seat of tetany nor the real nature of the toxic agent.

(To be continued.)

ABSCESS BENEATH THE DEEP CERVICAL FASCIA*

N. A. POWELL, M.D., TORONTO.

About noon one day some thirty years ago a man was brought to my office with his neck swollen and brawny, with complete aphonia and greatly impeded respiration. He was unable to swallow, had some delirium, a rapid pulse, and a temperature of 105. His illness had come on suddenly two days previously, but had become much worse within a few hours of the time I saw him. He looked extremely ill and thought he was dying. I sent him home at once and followed shortly after with Dr. A. R. Harvie, now of Orillia, but at that time a student in my office.

He was given chloroform as far as this anæsthetic could be given with respiration all but cut off, and on deep pressure a tumor slightly less than the size of a golf ball could be made out beneath the trachea and in front of the cervical spine. An incision as for ligation of the common carotid was made on the right side below the isthmus of the thyroid. The trachea, flattened as it passed over the tumor mass, was exposed so that a rapid opening could be made into it if this should become necessary. Then, displacing the carotid sheath outward, I worked down to and past the œsophagus. But for the skill with which cardiac stimulants and the anæsthetic were handled by my assistant, I believe the patient would have died upon the table. The mass was very hard, and fluctuation could not with certainty be made out in it. As breathing seemed likely to stop at any moment, I pushed a grooved director into the swelling and then opened it up widely with forceps by the Hilton method. Half an ounce of pus escaped. The wound was drained with both tube and gauze and moist dressings applied to favor discharge. No involvement of the cervical glands was found. The incision gave relief to the symptoms in a few hours, and by the next day he was well on his way toward a recovery, which subsequently became complete.

Dr. Austin Flint once said in my hearing that cases of pneumonia which he had studied in the earliest years of his practice made impressions which, down to the last detail, remained in his memory, and that he referred to them quite as

*Read before the Surgical Section of the Academy of Medicine, Toronto, April, 1913.

often as to those seen later. While other cases of this nature have come under my care in later years, none have seemed to me better suited to my purpose, which is to draw out in discussion the experience of the Fellows of the Academy in regard to the subject of this note.

Cervical abscesses we have always with us, but the variety occurring beneath the deep fascia are fortunately never, in so far as I am able to judge, of common occurrence in the experience of any surgeon. The fingers of one hand will suffice for the counting of all that have come under my personal notice.

The literature bearing on the subject is also meagre. Dr. David Cheever, of Boston, wrote an excellent paper on the subject and Dr. Nevitt another, but I doubt if the average physician, if such a personage exists, is quite alive to the gravity of the trouble and to the perils of a delayed diagnosis or of the misdirected or postponed attempts at surgical relief. In the presence of urgent symptoms, hourly becoming worse, it is folly to delay operation in the hope that fluctuation may be made out later and the uncertainties of the case removed.

TUBERCULOSIS OF THE KIDNEY *

BY DR. RAMON GUITERAS, NEW YORK.

Tuberculosis of the kidney was then taken up, and the lecturer showed tubercular kidneys in various stages of destruction. The first kidney he considered to be about one-quarter destroyed by a tubercular process. Cavities were seen representing areas of necrosis in a kidney that was split from the convexity to the pelvis.

The next kidney was from a boy 15 years old and showed scattered tubercles on the outside of the cortical portion of the kidney seen through the capsule. The kidney substance was about one-third destroyed.

The next was that of a young girl, nineteen years of age, who had been sent to him from Porto Rico. This girl complained only of frequent urination and tenesmus, the urine being occa-

*An illustrated lecture delivered before the Academy of Medicine, Toronto, February 4th, 1913.

sionally stained with blood. He said that for a long time he had not been able to satisfactorily cystoscope this patient or to catheterize her ureters, as she did not hold more than an ounce of urine even under an anæsthetic. Neither kidney could be palpated, but there was a slight tenderness on the right side. The patient was put on creosote and iron. He said that he generally made it a point to have such patients remain outdoors as much as possible in the sun on pleasant days, dressed in warm woolen clothes and strong shoes. This particular girl, however, refused to dress warmly in winter. He therefore kept her indoors more than he otherwise would have done. Her bladder was washed out daily with silver solution of increasing strength, followed either by a strong solution of argyrol (20%) or gomenol (20%). She improved very much. He left her on the general service on going off duty. On his return to duty at the end of two months he found her still in the hospital. She complained of pain on the right side. On examining her he found a tumor present and learned that she had given up internal treatment because she did not like the medicine. She was running a septic temperature. Even then it was difficult to cystoscope her, and he could not catheterize the ureter on the involved side, but found healthy urine coming from the left kidney. He operated and found the kidney represented by the tumor to be enormous for a girl of her size, and extended into the iliac fossa. He removed it and found very large cavities present. He washed the pus and detritus from these cavities and packed them with absorbent cotton soaked in Kaiserlin solution, sewed up the kidney, put it in Kaiserlin, and allowed it to remain for a week to harden. At the end of this time he opened it, after having removed the cotton. He called the attention of the audience to it as showing very large and well-marked cavities resembling cysts that represented pus cavities, and said that the ureter on that side had been shut off by the tubercular process. The kidney tissue proper was practically destroyed, and it was non-functionating.

The next slide shown was one of tubercular pyelonephritis on the right side and pyonephrosis on the left. He said it was a most interesting case, as the patient had entered the hospital running a high temperature, rapid pulse, and complained of pain in the right side and none on the left. He said that the pain on the right side was very severe, the tenderness exquisite, and muscular rigidity most marked, whereas on the left side where no pain was situated and he could not feel the kidney, he

found on further examination that the kidney substance was practically destroyed. On cystoscopy the patient and catheterizing the ureters two ounces of watery pus immediately ran out of the left catheter, whereas normal colored urine of a high specific gravity escaped from the right side. He then knew that the left side was most involved, although there were no symptoms present. He treated the patient for some days and tried to improve the condition of the right kidney, but instead of this the patient became rapidly worse. He decided to operate on the patient as an emergency case. Having cut down on the left kidney, he found it very much enlarged and convoluted, but collapsible and unresisting, which explained the reason why it could not be palpated. He removed the left kidney. The patient died shortly after this and the right kidney was removed at autopsy. The specimen shows cavities in part of the lower pole of the right kidney third, and slight involvement of the middle third of the kidney. It was perhaps a little more than one-quarter destroyed, whereas the left kidney, in which there were no symptoms, was practically a shell with a dilated and thickened pelvis and practically no functioning tissue. He said that this showed plainly that the more diseased kidney had no symptoms, whereas the less involved organ had the severest symptoms possible. He said he may have made a mistake in operating, but he felt that it was advisable to remove the worst kidney, which in this case was only a pus bag. A nephrotomy, however, might have been wiser. He also believed that the patient would not have lived much longer if no operation had been performed.

To illustrate further the great difference in tubercular kidneys, he showed another slide of tubercular kidneys, ureters and bladder.

He said that on one occasion he had gone to the hospital, where an assistant had been looking after the service, and was told that there was a splendid case of enlarged prostate for operation. He asked to see the patient and found a cachectic young man of 27. On feeling his prostate he found it to be enlarged and very indurated, having an irregular surface. The patient was passing whitish urine containing considerable pus. He asked his assistant what he proposed to do for the prostate. He was told he intended to do a prostatectomy, and he said that he told the assistant it would be useless, as the patient would die under the operation; that he could not possibly remove the organ without terrific laceration of tissues, and he

would only be able to remove it piecemeal, as the patient had a prostate very much involved with tubercular process; and he further said that the patient had but a few days to live if left alone. In less than two weeks the patient died. He pointed out the condition of the kidneys. He said he considered the specimen one of the most interesting in his collection. The left kidney was very much enlarged; in fact it might be called enormous, and its pelvis was much dilated. The right kidney was less than one-half the size and its pelvis was somewhat dilated. There were two congenital strictures at the junction of the lower part of the pelvis and the beginning of the ureter. There was a tubercular infiltration at the lower part of the ureter just before it entered the bladder, which shut it off entirely. The middle of the ureter was dilated and a beautiful tubercular ulcer was situated there. He said it illustrated what could happen in urinary tuberculosis. On the left side the process of tubercular infiltration and thickening in the ureter had been slower, resulting in just sufficient amount of obstruction to cause dilatation of the pelvis of the kidney in a slow tubercular involvement. On the right side the tubercular process had been so rapid and the ureter was so quickly shut off entirely that the kidney had undergone rapid pressure atrophy and had stopped functioning entirely.

In the next photograph he showed the ureters of the same patient, illustrating a ureter with two congenital strictures near the pelvis of the kidney, with a beautiful tubercular ulcer in the dilated middle portion of the ureter and the dense tubercular infiltrate shutting off the ureter just above the bladder. He said that to make this a better study he had it drawn so that the strictures, thickenings, ulcer and dilatation could be more plainly seen.

Suppurative diseases of the kidney were then taken up. A case of a pus kidney, mistaken for appendiceal abscess, was gone into from a diagnostic point of view, showing the importance of studying a case before operation. He said that on one occasion on the last day of his service in the hospital the house surgeon had telephoned to him that there was an emergency case of appendicitis to be operated upon—that the patient had had appendicitis for some time, and that a large abscess had formed about the appendix. He said the patient ought to be operated on at once and that he had prepared him for operation. The lecturer said he told the house surgeon to get someone else, as he was leaving on the following day for the meeting of the

Pan-American Congress. The house surgeon in reply said, "Could you give it to me?" The lecturer said "Yes, but I must be there at the operation"; that he had gone to the hospital and found a patient whom he had never seen before under ether; that he had felt a tumor in the appendiceal region which did not feel exactly like that of an appendix, and he had asked the house surgeon the condition of the urine. He was told that it was "all right." So he said: "Very well; start in and I will wash up." While he was washing up the house surgeon said: "Well, I am down to the appendix and it seems normal." In going over and looking at the field of operation the lecturer saw that the appendix was very little involved, but that there was something beneath it in the form of a tumor pressing it up from behind the peritoneum, and he remarked that it looked like the lower pole of an enlarged kidney. The interne in charge of the urinary examinations then spoke up and said: "Yes, the urine was full of pus and pus casts." The lecturer then made a careful examination and found a very large kidney extending down behind the peritoneum, with the lower pole protruding and pushing out the cæcum and the appendix. This patient had been told that the appendix was to be removed and this was done. The kidney was not operated upon, as the patient had not given his permission and the case had not been sufficiently studied.

The slides following showed first the appearance of the tumor below the appendix, and second, the relations of the kidney to the appendix, as it would have appeared had an incision been made in the meso-cæcum, and the tissues had been pulled away on either side of the incision sufficiently to disclose the kidney. He said there were many more such cases operated upon than the profession were aware of, and it showed that hospital operations should never be performed until a careful study of the case had been made. When he returned from the Congress he learned that the patient had recovered from the appendix operation and had left the hospital with the enlarged kidney still present. A careful search for the patient at the address given at the hospital failed to reveal his whereabouts.

Pyelonephritis.—The next slide showed the specimen of a kidney in a patient in whom the renal pelvis and kidney substance were both involved in the suppurative process. Abscesses were seen in the kidney tissue opening into the pelvis.

The next slide showed a case of double pyonephrosis in a prostatic. The lecturer said that he considered this a most in-

structive case, as it showed dilatations of both kidneys and their pelves, together with kinking of the ureters due to adhesions. He said that such adhesions and kinking gave rise to obstruction and retention of urine, or pus and urine, in the pelvis of the kidney, and emphasized the importance of always freeing the ureters as far as possible before delivering the kidney, and particularly before operating, as opening a kidney and removing a stone, or draining it, would be followed by a sinus unless the ureter had been so freed that good drainage could be established after the operation.

He said that in the beginning of his work on renal surgery he had had a number of cases in which he could not catheterize a ureter from above, although he had catheterized it from below to such a distance that he thought he was in the pelvis of the kidney. He now believes that in these cases he had neither been able to catheterize the pelvis of the kidney from below nor the ureter from above on account of kinks due to adhesions.

The following slide showed the kidney in a patient suffering from pyonephrosis after the organ had been split in two at the convexity. It was seen to consist simply of a wall which had been thin at the time of operation, but which had become thinner after the pus had been allowed to escape, and it had been acted upon by the preserving fluid.

Renal Abscess.—A specimen of the kidney of a patient who had been operated upon as an emergency case was then shown. The patient was brought into the hospital with a temperature of 104, pulse 120, respiration 30, suffering greatly from dyspnoea. His condition was a mixed one of sepsis and uræmia. There was great pain and muscular rigidity on the right side. The patient was cystoscoped and the ureters were catheterized, showing pus coming from the right side and clear urine from the left. There was not time for a further study of the case and an exploratory incision was made in the loin on the right side and a large kidney was delivered. An incision was made through the convexity of the kidney, revealing abscesses of various sizes, some quite large, which had broken into the pelvis of the kidney. The patient died on the following day and both kidneys were removed at autopsy. The right kidney was found to be in a state of chronic parenchymatous nephritis, complicated by large-sized abscesses. The left kidney was about one-half normal size and in a condition of chronic interstitial nephritis, but without suppurative complications. He stated that many writers had claimed that it is impossible for a patient to have a

chronic interstitial nephritis on one side and a chronic parenchymatous nephritis on the other, but this particular case showed that such a condition could exist. It also illustrated the fact that an impaired kidney is much more liable to septic involvement than a healthy kidney.

The next case was a kidney showing multiple cortical abscesses. The outside of the organ was seen to be riddled with abscesses from pin point size to that of a bean, bulging out from beneath the capsular propria. The patient had been running a mild septic temperature for some time, and examination had shown stricture of the urethra associated with cystitis. The stricture was being treated in the hospital when he developed an acute process in the right kidney. The organ became enlarged following a chill and rise of temperature. Examination of the urine from each kidney showed a septic condition on the right side. The renal involvement seemed to be so great that it was considered advisable to explore the kidney at once. This was cut down upon, after which an incision was made through its convexity into the pelvis, and it was surprising to see, notwithstanding the marked involvement of the cortical portion, how slight it was in the remainder of the organ. Nephrectomy was performed. It is difficult to say whether I did right or wrong in the matter of operation in this case. It might have been better to have simply performed the nephrotomy and awaited developments rather than to have removed the kidney. It was my belief, however, that the suppurative process would rapidly destroy the greater part of the kidney and that the case was an emergency one.

Perinephritis.—Perinephritis was then taken up and a number of interesting cases illustrated. He said that he thought but little had been done in the study of perinephritis; that he felt he had contributed considerably to its study in finding that most cases were due to some disease of the kidney; that textbooks had been rather shy in speaking of this condition and had generally touched upon the subject lightly by saying that it was either caused by a condition outside of the kidney involving the renal capsule and then, perhaps, the kidney tissue; or else it originated in the kidney proper and then extended through the capsule into the surrounding tissues. He stated that in perinephritis there was either a non-suppurative condition, showing itself principally in adhesions of the capsula propria to the fatty capsule to such a degree that they could be but slightly separated from one another, or not at all; or else that it fol-

lowed a suppurative condition in the kidney which extended through the capsula propria, involving the fatty capsule, and resulted in an accumulation of pus in the tissues outside of the kidney in the renal fossa. He said that he had seen these non-suppurative conditions in non-suppurative nephritis, especially a diffuse nephritis, where the fatty capsule could not be separated from the capsula propria; in other words, they were amalgamated as one, and in an effort to remove the fatty capsule the capsula propria came away with it. He said that he believed this amalgamated condition between the capsules occurred more frequently in surgical diseases of the kidney and resulted generally from either renal tuberculosis or renal calculus. In many of these cases of non-suppurative perinephritis there were dense adhesions as well between the capsula propria and the kidney substance, so that in removing the amalgamated capsule small pieces of kidney tissue were torn off.

In another case of non-suppurative perinephritis the patient complained of pain in the right kidney and colic. On cystoscopy normal urine was seen coming from the left side, but only some thick pus was seen on the right side, which looked like a pebble in the bladder at the mouth of the ureter. In this particular case in operating on the right side it was found that the two capsules were fused together, and on cutting through them and opening the kidney through its convexity a stone was found to be present which had practically destroyed the function of the kidney. This was a suppurative condition of the kidney, but a non-suppurative perinephritis so far as could be determined macroscopically.

On the next slide he showed the kidney of a patient who had entered the hospital suffering from an attack of anuria. The right kidney had been destroyed at an earlier date and was not functioning. The left kidney was cut down upon and exposed. It had amalgamated capsules, which gave it the appearance of a very large greasy sweetbread of a yellow color. He said that the kidney had been almost freed and delivered when he found that it had a combined fatty capsule and capsula propria. He had then cut through the combined capsules and opened the kidney into the pelvis (nephrotomy). This was followed by a gush of blood and urine, and a stone was found present, wedged into the beginning of the left ureter. The renal function had ceased in the left organ, whereas the other kidney had been practically destroyed at an earlier date and was not functioning.

He emphasized the following points, viz.: That the kidney capsula propria is nearly always dark red in color and smooth, and if a thicker, lighter and more irregular surface is seen the surgeons must be on the lookout for an amalgamated capsule and, having freed the combined mass sufficiently, should cut through both capsules down to the kidney and then do a nephrectomy, or an ordinary subcapsular nephrectomy, whichever appears to be indicated.

The next slide showed the kidney of a patient which, at operation, had appeared similar to the one just described as resembling a large greasy sweetbread. The patient, a laborer of middle age, had entered the hospital complaining of pain in the right side, which was constantly increasing in severity. Ureteral catheterization showed fairly healthy urine coming from the left side, whereas but little came from the right ureter, although it could be easily catheterized. After it had been cut down upon the kidney was found to be very large. On cutting through the combined capsules there was a gush of blood or, perhaps better, blood and urine (about 1 pint). The decapsulated kidney was found to be in the centre of the space, and the accumulation of urine and blood had been between the kidney and combined capsules. There was a rupture in the kidney tissue at the junction of the upper and middle third. The patient had no history of an injury that could account for the subcapsular rupture and leakage of blood and urine. The pressure on the kidney from the fluid between it and its capsules had caused the pain and diminution in the amount of urine. The patient had a stone low down in the ureter on the same side, and although a ureteral catheter could be easily passed, it is probable that at some time in its passage down the ureter the calculus had given rise to sufficient obstruction to cause retention in that kidney, at which time some injury had caused the slight rupture.

Suppurative perinephritis was then taken up by the lecturer, who spoke of the enormous amount of pus that could sometimes accumulate in the renal fossa, and the great degree of sepsis the patient can suffer from, which may cause great prostration and death. He said that a perinephritic abscess may break through the loin, or the diaphragm, into the lung, into the peritoneal cavity, the intestines or into various places; but that he had never seen a case where it had broken into any of the locations named, although he had had a case in which the pus had burrowed along the psoas muscle and bulged in the groin above Poupart's

ligament and below it between that ligament and the knee. He then said that the cause was generally a pyelonephritis or pyonephritis due to stone or tuberculosis, or a renal disease from whatever cause. Outside of infection in the kidney, he thought it to be principally caused by an empyema or an abscess of the lung breaking through the diaphragm, or by suppuration of a post-peritoneal gland in the region of the kidney.

He showed the picture of the body curve of a patient with perinephritic abscess operated on at the Columbus Hospital, in which could be seen a marked swelling in the ilio-costal region, typical of such a condition.

He then showed the kidney of a patient suffering from perinephritic abscess due to renal tuberculosis, in which case he had opened and drained the abscess. Later he had operated to remove the kidney. He had found the two capsules so adherent that he had tried to perform a subcapsular nephrectomy. As he did not make much headway, he had removed the kidney with the capsules, ligating the pedicle and thickened tissues about it *en masse*. The patient died of shock. The cut section of the tubercular kidney showed that its surface had lost entirely the appearance of renal tissue and was more like a mass of smooth, hard fat. There was no trace of a pelvis seen. The two capsules were fused together. He said that the appearance of this kidney closely resembled what the French call a "bacon kidney."

The next slide showed two halves of a tubercular kidney cut through the convexity into the pelvis. One figure showed the cut surface in which the kidney pelvis had lost its general appearance and resembled an ordinary sinus a little larger than the ureter and extending up and towards the outer surface. The next slide showed the outer surface with the opening corresponding to the part of the organ just seen, through which the sinus in the half just spoken of had discharged. He said that in this case also the kidney tissue was in a state of bacon-like condition. It showed a perinephritis in which the point of rupture connected with the renal pelvis.

The next slide showed the two kidneys of a patient (much emaciated) who had come to the clinic suffering from frequency of urination and pain in the bladder and kidneys. He had a mass in his left loin. The urine from the right side was scant and of low specific gravity. Only a slight amount of thick pus came from the left kidney. When this was cut down upon there was found considerable pus on the outside of the organ (peri-

nephritic abscess). The lecturer evacuated the pus and drained the loin for a few days. He then opened his incision again and delivered the kidney. He found the opening from which the pus had escaped into the renal fossa from a kidney abscess. He made an incision through the convexity into the pelvis of the kidney, but outside of this area of suppuration he found nothing but a dense tubercular infiltration. There was almost no bleeding when this kidney tissue was cut through, and it was not even necessary to compress the pedicle. The kidney was choked by the very dense tubercular infiltration, which had compressed the blood vessels, glomeruli and tubules.

The next slide showed a kidney with a small hole the size of a finger tip on its surface. There had been no pus in the urine, yet there was pus about the kidney (suppurative perinephritis). When the loin was opened and the pus evacuated the kidney was palpated and a small hole was found on one side of the kidney, into which the tip of the forefinger could be introduced. In this particular case the wound healed shortly afterwards and there were no signs of renal involvement in the urine coming from that kidney, excepting a low specific gravity and a few hyaline and granular casts which could be accounted for by the inflammation about the cortical abscess present. The patient made an uneventful recovery from the kidney operation and the wound was closed. Shortly afterwards, however, he developed a tubercular process in the knee joint.

The next slide illustrated a kidney in which a calculus had given rise to a perinephritic abscess. The patient already referred to entered the hospital with pain and swelling in his right loin, with a swelling above Poupart's ligament and another bulging below it, between Poupart's ligament and the knee. In other words, the kidney had suppurated and the pus had been discharged through the capsular propria into the perinephritic tissues and had worked its way down along the psoas muscle, as in Pott's disease. On making the incision in the lumbar region and exposing the kidney a sharp calculus was seen protruding through its wall, which was seized and pulled out. The kidney was then opened, but no more stones were seen. Counter-openings were made in the groin and thigh. The patient made an uneventful recovery.

Non-functioning Kidney.—The next slide showed a small kidney in which the pelvis was somewhat dilated, but the kidney tissue was atrophied, although its wall was somewhat thick and fibrous. It appeared to have resulted from a suppurative pro-

cess that had gradually destroyed the kidney substance, leaving slightly thickened walls. The patient was twenty-five years of age. She had entered the hospital complaining of pains in the right side, such as she had not had since childhood, when they were very severe. On cystoscopy her the urine coming from the kidney on the left side was normal, but none came from the kidney on the right side. The kidney was non-functionating and was removed. When opened it was seen to contain a small blood clot. In this particular case the destruction of tissue was evidently due to tuberculosis or stone, probably the latter. We have already learned that kidneys which are greatly destroyed by stone atrophy and become useless and non-functionating, as was the case in this kidney. In other cases a person may have a tubercular kidney remaining in the body that has ceased to functionate.

In order to corroborate my opinion that a tubercular kidney can be so destroyed in the body as to cease to functionate, and while investigating the question of non-functionating kidneys, I went to the laboratory at the Bellevue and looked at a number of specimens of tubercular kidneys until I found one which the pathologist said had ceased to functionate, which I show in this slide. I have also been assured by pathologists that I am correct in my belief that suppurative processes can continue in a kidney due to tubercular process or renal calculus until all the functionating kidney tissue has been destroyed. Also that a calculus can be present in a kidney giving rise to a suppurative process; that it can later be passed down and out of the urethra, leaving a slow destructive suppurative process, which can completely destroy the renal function.

THE INTERNATIONAL MEDICAL CONGRESS ABSTRACT OF PAPERS

Through the courtesy of the General Secretary we are able to give a few brief abstracts of papers which are to be presented and discussed at the Seventeenth International Medical Congress. They indicate in a slight degree the character and scope of the work to be done at the Congress, which will have a world-wide scientific influence upon the future of medicine.

SECTION II.—JOINT DISCUSSION ON INTERNAL SECRETIONS.

Summary of Report of PROFESSOR GLEY, Collège de France, Paris.

The subject of internal secretion is a complex one. The first idea was that of substances modifying the blood (Claude Bernard). Brown-Séquard suggested the theory that the secretions are functional excitants, from whence proceeded that of humoral functional correlations.

Division of the endocrinous glands according to the mode of action of their products, with the result that they supply nutritive materials, substances with a trophic action (morphogenetic), so-called hormones, post-mortem products endowed with a physiological action (parhormones). Researches in regard to the physiological action of extracts of organs are insufficient to determine the functions of internal secretion.

General characteristics of endocrinous substances.

Their rôle. Their reciprocal relationships; criticism of the question of humoral inter-relationships.

Disturbances of function of endocrinous glands; criticism of the theories of hyper and hypo-function.

SUB-SECTION III.—PATHOLOGICAL CHEMISTRY.

Pathological Conditions Due to Defects in Diet. Abstract of Report by DR. H. SCHAUMANN, Hamburg.

Nutrition depends not only on quantity but quality of food-stuffs. Diet must include: (a) certain cyclo-aminic acids, (b) certain other substances, e.g., Vitamine, about which little is yet known. They occur in effective quantity in only a few substances, animal (brain, heart, eggs), and vegetable (yeast, pericarp of vice, etc.). They are partly free, partly in combina-

tion, especially with phosphorus. But analytical methods still very imperfect. They are easily destroyed by long storage, long heating, etc. Their loss produces in each case a specific disease, beri-beri, scurvy, pellagra, etc.

SECTION III.—GENERAL PATHOLOGY.

The Pathology of Shock. Abstract of Report by YANDELL HENDERSON, Ph.D., Professor of Physiology in the Yale Medical School, New Haven, Conn., U.S.A.

Shock, in the broad sense in which the term is often used, is not a single clear-cut disorder, but a group of conditions of superficially similar appearance. The term is also applied to various modes of sudden death. Present knowledge of the pathological physiology of these processes will be briefly presented. The acapnia theory of fatal apnoea as the result of pain and of ether excitement will be stated and typical cases quoted. Shock, in the sense of failure of the circulation, will then be shown to be due, not to fatigue, or paralysis, or inhibition, or failure of any sort in the vaso-motor centres, but to processes which decrease the blood volume, and which result in a circulatory condition practically identical with those produced by hæmorrhage.

SECTION III.—GENERAL PATHOLOGY.

The Effect of Radio-active Substances and Radiations Upon Normal and Pathological Tissues. Abstract of Report by W. S. LAZARUS-BARLOW.

Previous work has shown conclusively that injurious effects on living cells may be produced by strong doses of radiations, and particularly by alpha rays. Chemical substances may be decomposed. There is some evidence that very weak doses may stimulate proliferation of cells. This is important because minute quantities of radium itself have been found in suggestive association with carcinoma in the human body. It is probable that the action of X-rays and hard gamma rays is indirect, i.e., by virtue of the soft secondary rays to which they give rise.

SECTION VI.—MEDICINE.

Abstract on Diabètes. By GEORGE DOCK, M.D., St. Louis, U.S.A.

Reporter shows present state of anatomical investigations in diabetes. The results of experiments of clinical status tending

to elucidate the pathology, and especially the metabolism, in the disease. The relations of this to practical medicine are described and the diagnostic and therapeutic problems presented in various types of cases are discussed.

SECTION VI.—MEDICINE.

Differentiation of the Diseases Included Under Chronic Arthritis. Abstract of Report by PROFESSOR LLEWELLYS F. BARKER, Baltimore.

The reporter reviews the development of knowledge concerning these diseases, describes the origin of the terms which have been employed and the modifications which these have gradually undergone. He thinks that much of the confusion in terminology has been due to the attempt to make clinical, pathological-anatomical and etiological classifications coincide—an impossible task.

He divides the principal chronic arthropathies into five main groups:

1. The true gouty arthropathy.
2. The neuropathic arthropathies (tabes; syringomyelia).
3. The primary hypertrophic osteoarthropathy (osteoarthritis deformans).
4. Chronic secondary arthropathies following infectious diseases.
5. The primary chronic progressive polyarthritides (rheumatoid arthritis in the narrower sense).

He admits that the latter may be an infectious disease and may ultimately be placed in Group IV., but believes that the weight of evidence at present is in favor of a disease *sui generis*.

The relation of villous arthritis, the arthropathies of the spine, Still's disease, Heberden's nodes, Bouchard's comptodactylie and sub-cutaneous fibroid nodules to the above-mentioned types is discussed.

SECTION VII.—SURGERY.

The Present Position of Intrathoracic Surgery. Report by PROFESSOR F. SAUERBRUCH, Zürich.

After a brief historical summary, Sauerbruch referred to the factors which have been of significance in the development of thoracic surgery. He pointed out the improvement in methods of diagnosis due to the Röntgen rays, the experimental researches in regard to pneumothorax, and the introduction of differential

pressure. The methods of operation for the treatment of certain diseases of the lung are of special importance. He then reported his own experiences in the various branches of intra-thoracic surgery. These included the treatment of severe intra-thoracic injuries, the technique of exploratory thoracotomy, resection of the thoracic wall, etc. He referred to the operative treatment of chronic suppurations of the lung, and especially dealt with bronchiectasis and pulmonary tuberculosis. The results show that one is justified in speaking of a considerable advance in thoracic surgery during the last ten years.

SECTIONS VII. AND XI.

The Treatment of Tumors of the Brain and the Indications for Operation. Extract from Report by PROFESSOR DR. L. BRUNS, Hanover.

1. The operative procedures in tumor of the brain may be divided into two classes:

(a) A radical operation, with extirpation of the tumor.

(b) Palliative operations for the relief of pressure on the brain. These may be undertaken primarily. In other cases they are carried out as a secondary procedure in cases in which for some reason it has been found impossible to complete an attempted radical operation.

The indications for the radical operation, and therefore the prognosis of this operation, are dependent upon three factors:

(a) Upon the nature of the tumor. Sharply defined tumors have the most favorable prognosis, more especially if they are extra-cerebral. Unfortunately a clinical differentiation between the very frequently infiltrating gliomata and sharply defined sarcomata still remains very difficult.

(b) Upon the possibility of making a general and local diagnosis. The general diagnosis from abscess, hydrocephalus and pseudo-tumor may be difficult. Local diagnosis is often impossible in the case of tumors involving the right temporal and frontal lobes, and also those affecting the semi-oval centre and the corpus callosum.

(c) Upon the operative accessibility of the tumor. Those in the primary cerebral peduncle in the third ventricle are inaccessible, and also many situated in the medulla of the hemispheres. All others are operative, but with a varying degree of operative risk.

Primary palliative operations are indicated in cases in which,

with a failure to make a local diagnosis and a certain general diagnosis, the general symptoms are very severe, and notably if there is diminishing acuteness of vision, so that the patient is threatened by blindness.

SECTION VII. B.

Resumé of Report on Rectal Anæsthesia by JOHN H. CUNNINGHAM, JR., M.D., Boston, U.S.A.

History of the method of administration and results of rectal anæsthesia, following its introduction in 1847 and its reintroduction in 1902. Advantages and disadvantages of the method. Description of the apparatus. Technique of administration. Theory regarding the physiology of ether narcosis by the rectal method. Its place among other methods of modern anæsthesia.

SECTION IX.—OPHTHALMOLOGY.

Abstract of Report on Glaucoma Operations by PRIESTLEY SMITH.

This report shows the extent to which the newer operations for glaucoma have supplanted the classical iridectomy in the practice of British ophthalmic surgeons. In the autumn of 1912 the reporter addressed an enquiry on the point to all members of the Ophthalmological Society of the United Kingdom excepting those known to do no operative work. The replies show that iridectomy, variously executed, still holds an almost undisputed place in the treatment of acute glaucoma, and that operations expressly designed to establish a sub-conjunctival fistula or filtering cicatrix, and pre-eminently sclero-corneal trephining, have, to a very large extent, replaced it in chronic glaucoma. Evidence for and against the various procedures is given.

SECTION X.—DISEASES OF CHILDREN.

Operative Treatment of Tuberculosis of the Bones in Children and of Osteo-articular and Ganglionic Tuberculosis. Summary of a Report by DR. V. MENARD.

As regards the local treatment, tuberculous osteitis should be definitely distinguished from osteo-arthritis of the same nature. In tuberculous osteitis, whether situated at a distance, or above all in the near neighborhood of articulations, clearing out of the cavity frequently results in cure, more especially at the fistulous stage.

As regards tuberculous arthritis, the conservative method of local treatment is almost invariably efficacious, provided that it is applied thoroughly and continuously during the total duration of the malady, which invariably runs a prolonged course. The best operative procedures, including filling with lead (plumbage), are not satisfactory substitutes for conservative treatment. The most urgent indication for operation, namely, danger to life from septic suppuration, is usually due to irregularity in the carrying out of conservative treatment. Surgical intervention is also necessary in the presence of complicating accidental infection, and in certain anatomical forms of articular tuberculosis.

Operation, such as drainage, or atypical resection, which often represents only a more extensive form of drainage, removes an obstacle to local repair. Operation has a minimum mortality, excepting in the case of the hip. In this latter instance the greater mortality is not a contra-indication, since operation is undertaken for the removal of a condition which will almost certainly result in death. The orthopædic results are satisfactory, provided the post-operative treatment is rational and persistent. A bad result from this point of view is exceptional.

As regards ganglionic tuberculosis, in spite of the progress of medical treatment, an important rôle is still reserved for surgery. This consists in the rapid removal, without inconvenience to the patient, of a mass of ganglia limited to the groin or axilla, or even of a large group of caseous cervical ganglia. The objection of resulting visible deformity is unimportant, as an expert operator can with facility limit the length of the incision.

In any event, in view of the fact that surgical operation is only an auxiliary to local repair, re-establishment and preservation of general health in tuberculous patients can only be hoped for—whether operation has been undertaken or not—if suitable hygienic measures are persevered with for a prolonged period or throughout life.

SECTION IX.—OPHTHALMOLOGY.

Sclero-corneal Trephining in the Operative Treatment of Glaucoma.—Abstract of Report by LT.-COL. R. H. ELLIOT, M.D., I.M.S., Madras.

This operation is suitable for the relief of both simple and congestive glaucoma, whether primary, secondary, traumatic or post-operative. It is also valuable as a prophylactic measure. Its steps are: (1) Raising a large conjunctival flap, concentric

with the limbus, above; (2) splitting the cornea at the middle of the flap-base; (3) trephining the sclero-cornea as far on to the split cornea as possible; (4) iridectomy; and (5) replacement of the flap. The operation is not difficult, and convalescence is rapid. The results have been excellent. More than 800 eyes have been trephined here and many have been observed for 1 to 3 years since operation. Complications are infrequent in early cases.

SECTION XIII.—FORENSIC MEDICINE.

Syphilis, its Dangers to the Community and the Question of State Control. Abstract of Report by MAJOR H. C. FRENCH, R.A.M.C.

Owing to the Insurance Act, syphilis must in time become notifiable on financial grounds. It is requisite that the medical profession act unanimously to ensure that adequate steps are taken by the state as regards the control of syphilis. The state control of disease is an absolutely different matter from the state regulation of vice. The model for a concrete scheme should be based on the cantonment code of 1899, India. The first essential is to obtain legal control of syphilis by a system of confidential medical notification, and the disposal of diseased persons in hospital in early contagious stages, an adequate treatment ensured.

SECTION XIII.—DERMATOLOGY.

"Alopecia Areata" and Similar Diseases. Summary of the Report of M. LE PROFESSEUR CELSO PALLIZZARI, of Florence, Italy.

The reporter is of opinion that "alopecia areata," according to the recent clinical, anatomical, pathological, biological and experimental researches, should not be regarded as a unique nosographic entity, but rather as a symptomatological syndrome of nervous pathogenesis, the ætiology of which varies in individual cases.

He also thinks that the same hypothesis may explain the numerous and polymorphous clinical varieties, which, under different names, indicate morbid states very near to alopecia. These include focal conditions, involving the skin in its totality, and inducing premature trophic disturbance, and those which have their point of departure in the follicular apparatus, and as a result of inflammatory conditions with slightly specialized characteristics, also lead to cicatricial atrophy.

Finally, the reporter admits that some clinical forms, very closely resembling one another, may be due to completely different morbid processes, though belonging to the same group, and that the same morbid process may determine different clinical types, according to its own phase of development and the region which it involves.

SECTION XIII.—DERMATOLOGY.

Vaccine Treatment of Diseases of the Skin. Abstract of PROF. PROF. T. CASPAR GILCHRIST's Report.

1. Treatment of various cutaneous diseases, with autogenous and stock vaccines, with varying results.
2. Treatment of some selected cases of skin diseases with the living micro-organisms, e.g., a few cases of blastomycetic dermatitis were treated with increasing doses of the filtrate, with excellent results.
3. The application of different strengths of ointments made up with dead micro-organisms and a base, to various cutaneous diseases, especially eczema. Results undecided as yet.
4. The use of vaccines made from autogenous cultures obtained from the fæces of patients suffering from various skin diseases, especially the toxic forms. Results in some cases very good, in others variable.
5. Vaccines made from bacillus coli used in a number of cutaneous diseases, especially urticaria, with varying results.

SECTION XV. AND XVI.—JOINT DISCUSSION ON TREATMENT BY ARSENICAL COMPOUNDS.

Summary of Report by PROFESSOR DR. P. GERBER, Königsberg.

According to the results of our investigations up to the present, the arsenical compounds also play a primary rôle in Rhino-Laryngo-Otology in relation to diseases due to the spirochæte. As regards atozyl, hectin, arsenophenylglycerine, arsa-cetin, etc., neurotropism is too great in proportion to the spirochætetropism to allow of their occupying a place in the therapy. Only in salvarsan and neosalvarsan has this proportion been so transformed—thanks to the good work of Ehrlich—that we are able to make use of the great power which is latent in arsenic in regard to human troubles. These medicaments contain a specific, the influence of which surpasses that of any other medicament in all diseases of the neck, nose and ear which are

due to spirochæte, or in the causation of which spirochæte participate. They no longer have any harmful influence, which can be said of no other medicament. Within the organ of hearing, it is only necessary, when using arsenical therapy, to give particular attention to the acusticus, in view of its great delicacy.

SECTION XX.—NAVAL AND MILITARY MEDICINE.

Abstract of Report on "The Treatment of Syphilis with Salvarsan and Allied Substances," by LIEUT.-COLONEL T. W. GIBBARD and MAJOR L. W. HARRISON, R.A.M.C.

The authors have tried seven different schemes of treating syphilis with salvarsan and have obtained the smallest percentage of relapses with a course of two injections of salvarsan and nine of mercury. Comparing the results of this scheme of treatment with that which follows the exclusive use of mercury, it appears that the routine treatment of syphilitic soldiers in the British army with salvarsan and mercury will effect an annual economy equivalent to the cost of keeping a battalion of infantry in hospital for over three months. A comparison between the results of commencing treatment in the primary and secondary stages respectively shows the very great importance of commencing treatment in the primary stage. Epileptiform convulsions and death after salvarsan injections are discussed, and the argument is advanced that they are due to salvarsan poisoning of susceptible patients and may possibly be avoided by giving injections at longer intervals so as to avoid any cumulative action. Analysis of reactions after salvarsan injections seem to show the febrile symptoms are due to spirochæte endotoxins, but vomiting and diarrhoea to salvarsan. Cranial nerve disturbances are due to syphilis, not to salvarsan. Salvarsan is a sufficiently safe remedy to justify its routine use for the treatment of syphilis in the army.

The report is illustrated with four tables.

SECTION XX.—NAVAL AND MILITARY MEDICINE.

Abstract of Report by COLONEL P. HEHIR, I.M.S.

Colonel P. Hehir, I.M.S., Assistant Director of Medical Services, Burma Division, submits a paper on "Military Sanitary Organization in the Tropics," in which he deals with the requirements of a sanitary service for large forces in a settled tropical country. He considers the sanitary organization of the army of

the Indian Empire to be the most comprehensive, practical, and, as the results show, the most efficient in existence, and he presents it as a model of what military sanitary organization in the tropics should be. He specially emphasizes the importance of making combatant officers of units responsible for the sanitary conditions of their barracks and surroundings, and the hygienic welfare of troops, and he is of opinion that the institution of regimental sanitary detachments in units has been of inestimable value to the health of the army in India.

SECTION XX.—NAVAL AND MILITARY MEDICINE.

Caisson Disease. Abstract of Report by STAFF SURGEON R. W. G. STEWART, R.N.

Special precautions to be observed in the case of divers. Recent cases of illness caused by diving under present conditions. The importance of a free supply of air. Amount of air required. Effects of high pressure of CO₂ in air of helmet. Danger of rapid decompression. Procedure necessary when diver has been "blown up." Use of recompression chamber. Decompression after repeated descent. Treatment of caisson disease when diver is unconscious and (a) in diving dress, (b) out of diving dress. Danger of diving on wrecks. Influence of fatness. Danger after prolonged exposure in deep water.

SECTION XXI.—TROPICAL MEDICINE.

On Plague—Resumé on the Value of the Search for Rat-fleas in the Discovery of the Plague Germ. Abstract of Report by S. KITASATO, Japan.

Since the bubonic plague, unlike the pulmonary, is chiefly spread by the rat family, a different method of prevention is necessary. The early detection of the germ and the elimination of the plague-carriers (chiefly rodents) are some of the most recommendable requirements. Consequently the bacteriological examination and extermination of rodents have been resorted to, but the results of the systematic observation that was carried out in Kobe City at the outbreak of 1901-10 have confirmed the flea theory, and led us to the conclusion that the bacteriological examination of the rat-fleas that have been collected by means of guinea pig test should be necessary besides the examination of rats, for, while the examination of rats had a negative result, the 3,336 guinea pigs disclosed the infection with a number of

victims and the discovery of the infected rat-fleas, when they had been allowed to run free at 774 different places.

SECTION XXII.—RADIOLOGY.

The X-rays and Radium in Gynæcology. Summary of Report by DR. FOVEAU, of Courmelles.

Recent fibromata, even when of large size, yield fairly rapidly to the X-rays, applied externally with aluminum filtration. Hæmorrhage, pain, or sensation of weight are the first symptoms to disappear. The intensity should vary in accordance with the radio-sensibility of individual patients, and may do so secondarily from $1/10^e$ to 3mA. The number of séances is a question of age. Near the menopause the action is more obvious and more rapid, even in the case of a long-standing fibroma.

In some cases the rays, after having produced more or less retrogression of the tumor, have no further result. Pure radium, in doses of from 1 to 5 egr. around or in the cervix uteri, applied for six to twenty-four hours, then acts very favorably upon recent and slightly developed fibromata, but less so upon those of larger size.

Editorials.

HONOR TO DR. TEMPLE

The many friends of J. Algernon Temple, of Toronto, were pleased to learn that his alma mater, McGill University, had decided to confer upon him the degree of LL.D. Dr. Temple graduated from McGill in 1865. After a few years spent in India, he settled in Toronto, and was at once placed on the teaching staff of Trinity Medical College. On the death of Dr. Hodder, in 1878, he was appointed Professor of Obstetrics and Gynæcology, and held that position until the amalgamation with the University of Toronto. In the latter institution he held the chair of Gynæcology and Operative Obstetrics. He resigned in 1910. On the occasion of his retirement, his professional brethren tendered him a banquet in the York Club, and at the same time presented him with a solid silver tea and coffee service as a token of their admiration and respect.

On the resignation of Dr. W. B. Geikie from the Deanship of Trinity Medical Faculty, in 1903, Dr. Temple was elected Dean, and remained in that office up to the time of his resignation. Dr. Temple has given up all active work in hospitals, but is still engaged in general practice in Toronto.

NEW PREVENTORIUM

Among the many new things recently established, we know of nothing better than the New Preventorium, situated at the corner of Yonge Street and Shelldrake Avenue, North Toronto. It was officially opened May

7th by His Honor, Sir John Gibson, Lieutenant-Governor of Ontario. He spoke at some length on the splendid steps being taken towards stamping out tuberculosis, and especially the free sanitariums which had been established in the Province. He spoke particularly of the generosity of Colonel and Mrs. Gooderham in presenting this property. The house is a fine large one, standing in the centre of property comprising about three acres. A beautiful growth of evergreen trees adds much to the beauty of the spot. Extensive additions are in progress, and it is hoped that the whole structure will be finished by the Autumn, when the institution will accommodate about 75 children.

The object of the home is to provide for those children who, through heredity or other tendencies, might easily develop tuberculosis.

CANADIAN PUBLIC HEALTH ASSOCIATION

The 3rd Annual Congress of the Canadian Public Health Association will be held in Regina, Sask., on Sept. 18th, 19th, and 20th, 1913. This will be the first occasion on which the members of the Association have met in the West.

At the Congress held in Toronto last year, communications were read from the City of Regina and the Government of Saskatchewan, inviting the members to make Regina their next meeting-place. These invitations were unanimously accepted, and we are told that a hearty welcome will be extended to the Association by Saskatchewan's Provincial Government and its Capital city.

The Provincial Government, realizing the educational value of such a Conference, and the stimulation of interest which it will effect in matters of public health, have decided to bring all the Medical Health Officers of the Province (some 200 in number) to the Congress. There is, therefore, every indication that the attendance will equal, if not surpass, that of the two previous meetings in Montreal and Toronto.

Following the decision to hold the Convention in Regina, the Executive Committee of the Association at Ottawa elected Dr. M. M. Seymour, Commissioner of Public Health for Saskatchewan, Convener of the Local Arrangements Committee. Local committees have already been formed, and are actively engaged in preparing a programme of outstanding strength and interest. Several of the most prominent health authorities of the Dominion and the United States will address the Convention.

Apart from the high standard of instruction and education which the Committee are aiming at in the programme, every possible provision will be made for the comfort and entertainment of the visiting guests during their stay in the city. The secretary of the Local Arrangements Committee is Mr. R. H. Murray, Engineer to the Bureau of Public Health, Regina. The names of Sectional Conveners will be announced later.

MEASLES IN TORONTO

For some reason which it is impossible to explain, a large portion of the general public consider that measles is only a trifling complaint, and does not, in the majority of cases, require the services of a physi-

cian. It is well known to the medical profession generally that the mortality from measles in Great Britain is quite serious and the rate comparatively high. We learn from the *Toronto Health Bulletin* that the recent epidemic in this city was quite a serious one. It happens, perhaps fortunately, that a goodly portion of our citizens recognized that fact, especially when they heard of the large death-rate in one of our well-known charitable institutions.

In November, 1912, a few cases of measles were reported by the West End Creche. Measures were taken by the Department of Health to enforce a notification of all cases by physicians and the houses were placarded. Isolation of the cases in the homes was found to be difficult, and great hardship resulted in certain cases, e.g., when the wage-earning mother was compelled to remain at home to nurse her sick child.

In many cases the mothers, ignorant of the possibilities of the disease, employed no physician and made no attempt at isolation. The *Bulletin* tells of one case which resulted in a tragedy. The report reached the Department that a child had measles; but as the mother denied the report, and the child was well at the time of the nurse's visit, there seemed no reason to doubt her statement. In a few days two little girls living downstairs in the same house contracted measles, and both died, notwithstanding careful attention given by two competent physicians and a resident nurse, provided by a charitable agency. Sixty-two deaths from measles have occurred in Toronto since December 1st, and the *Bulletin* goes on to say, "A number of deaths have occurred, and more will occur as a result of the lowered vitality permitting pneumonia, tuberculosis and other diseases to develop."

INTERNATIONAL CONGRESS ON SCHOOL HYGIENE

The Fourth International Congress on School Hygiene will be held in Buffalo, August 25 to 30. The first International Congress was held in Nuremberg in 1904, the second at London in 1907, the third at Paris in 1910. The coming Congress, therefore, will be the first to be held on this continent.

The objects of the Executive Committee at the Fourth Congress are: (1) To bring together men and women who are interested in the health of school children. (2) To organize a programme of papers and discussions covering the field of School Hygiene. (3) To assemble a school exhibit representing the best that is being done in School Hygiene. (4) To secure a commercial exhibit of practical and educational value to school people. (5) To publish the proceedings of this Congress and distribute them to each member.

In addition, there is a plan on foot to effect a permanent organization for the purpose of carrying out school hygiene reforms in all the individual communities in North America, if not all over the world.

Various citizen committees of Buffalo are arranging an elaborate entertainment for the benefit of visiting delegates. There will be receptions, a grand ball, a pageant of school children, and excursion trips to the industrial plants of Buffalo and Niagara Falls. A body of Boy Scouts will act as Official Guides. Dr. Charles W. Eliot, of Hartford University, is President; Dr. W. H. Welch, of Johns Hopkins, and Dr. Hy. P. Walcott, Chairman of the Massachusetts State Board of Health, are Vice-Presidents.

ACADEMY OF MEDICINE

Remarkably encouraging was every report presented at the sixth annual meeting of the Academy of Medicine, Toronto. The Fellowship of the Academy has shown a steady increase, particularly during the past two years. Beginning in 1907 with a roll of 230 resident Fellows and 5 non-resident Fellows, the numbers now are 333 and 39 respectively.

Moreover, these are not merely nominal Fellows. They have taken a practical interest in the proceedings, as shown by the fact that the average attendance at the general meetings was 128; far in advance of the previous year. The attendance at the Sectional meetings, especially those of Medicine and Surgery, also showed a decided increase. The papers read were practical and helpful to the general practitioner. The discussion of the papers was serious and thoughtful, and participated in by a large proportion of the Fellows.

For some years the Council has been considering the question of having a complete report of the meetings. At last definite action has been taken. On the recommendation of the Publication Committee, Dr. J. F. Goodehild has undertaken to report the discussions in both the general and sectional meetings. Thus a further step has been taken towards the publication of the transactions of the Academy.

Perhaps no other committee devotes more time and thought to its work than does the Library Committee. The sum of \$700 has been expended during the past year on books, periodicals and reports, and it is probable that during the coming year there will be an expenditure of \$1,000. One hundred and seventy-eight volumes were added during the year, making a total of 5,861 now on the shelves. One hundred and sixty-seven periodical publications are regularly received and generally read, both in the Academy and in the homes of the Fellows. The library register shows an attendance in the last session of 1,822, or 175 more than the previous year. The Chairman of the Library Committee aptly said in his report: "Of the aims of the Academy, one of the most important is that of building up the library. Our collection of books is our dukedom."

The financial report was as gratifying as the others. After paying all debts, the amount of \$1,700 was transferred to savings account and a good balance carried over to the new year. The trustees reported the assets of the Academy as \$22,810, with-

out considering the appreciation in value of the land and buildings, and also exclusive of books and paintings.

Surely those wise men who had been laboring, with much self-sacrifice, for many years towards the organization of the Academy, and who six years ago saw the fulfilment of their dream when it was opened, have been amply justified by the growth and usefulness of this institution—one of the most helpful to the practitioner in keeping himself abreast of the rapid progress of his science. It is also one of the most valuable means of maintaining that *esprit de corps* which should ever exist among a body of educated men.

The officers and members of Council for the session 1913-14 will be as follows:

President—Dr. H. J. Hamilton.

Vice-President—Dr. H. B. Anderson.

Hon. Secretary—Dr. Harley Smith.

Hon. Treasurer—Dr. W. A. Young.

Past President—Dr. R. A. Reeve.

Elective Members of Council—Drs. Edmund E. King, H. A. Bruce, W. H. B. Aikins, D. J. Gibb Wishart, N. A. Powell, John Ferguson, J. A. Amyot, Graham Chambers.

Chairmen of Sections—Medicine, Dr. J. T. Fotheringham; Surgery, Dr. Wallace Scott; Pathology, Dr. Duncan Graham; Ophthalmology and Oto-Laryngology, Dr. D. N. Maclellan; State Medicine, Dr. J. H. Elliott; Pædiatrics, Dr. H. C. Parsons.

Secretaries and Editors of Sections—Medicine, Dr. Frederick Harrison, Dr. A. H. Rolph; Surgery, Dr. Malcolm Cameron, Dr. Geo. Ewart Wilson; Pathology, Dr. F. W. Rolph, Dr. C. E. C. Cole; Ophthalmology and Oto-Laryngology, Dr. T. Alex. Davies, Dr. F. C. Trebilecock; State Medicine, Dr. J. F. Hazlewood, Dr. G. G. Nasmith; Pædiatrics, Dr. G. F. Boyer, Dr. J. S. A. Graham.

The following volumes were recently presented to the library of the Academy of Medicine, Toronto, by Dr. Andrew MacPhail, Montreal:

Allen, The Bacterial Diseases of Respiration, and Vaccines in their Treatment, 1913.

Allen, Vaccine Therapy, Its Theory and Practice, 4th ed., 1912.

Beatson, Modern Wound Treatment and the Conduct of an Operation, 1913.

Bernays, Golden Rules of Surgery, 2nd ed., 1913.

- Clayton-Green, *Pye's Surgical Handicraft, etc.*, 6th ed., 1912.
Culbertson, *Medical Men and the Law*, 1913.
Davis, *Obstetric and Gynæcological Nursing*, 4th ed., 1913.
Grunbaum, *The Essentials of Morbid Histology*, 1912.
Marjolin, *Manuel d'Anatomie*, 2 vols., 1815.
Rilliet & Barthez, *Maladies des Infants*, 3 vols., 1843.

NEWS ITEMS

The Wingham General Hospital, which was erected seven years ago, is to be enlarged at a cost of \$5,000.

The seventh annual meeting of the Canadian Society of Superintendents of Training Schools for Nurses was held in the Public Library, Berlin, Ontario, May 19th and 20th, under the presidency of Mrs. H. M. F. Bowman, R.N., Superintendent Berlin and Waterloo General Hospital.

Any physician going to Britain this summer with the intention of attending the British Medical Association or the International Medical Congress, should communicate with Dr. J. Ferguson, 264 College St., Toronto, who can furnish information regarding special rates, and other information.

A by-law to grant aid to the Guelph General Hospital to the extent of \$30,000 was carried by a majority of 526 votes April 28. We understand the work of remodeling the building has already commenced.

It is expected that a new hospital will shortly be erected in Cobourg, Ont. The late Mr. William Black of that town bequeathed \$10,000 towards this object, and the late Mr. John Helm, of Port Hope, bequeathed \$20,000. The Finance Committee of the Hospital Board is asking \$15,000 from the citizens to complete the cost of the new building.

It is reported that a hospital will be erected in the west end of Toronto, in the vicinity of Bloor and Dundas Streets, in the near future. It will be known as the Howard Park Hospital, will have about 70 beds, and will cost \$100,000. The doctors

specially interested in the proposed building are: Dr. J. E. King, Dr. W. Taylor, Dr. G. Glendenan and Dr. W. A. Burr.

As before announced, we understand the next meeting of the Medical Council of Canada will be held at Ottawa on the 17th of June and the four following days. It is expected by that time that the Council will be in a position to open the new Registry of all those who have been in active practice in Canada for ten years prior to the 7th of November, 1912, which was the date on which the Act came into force.

A retired physician, a Toronto graduate, would like to get a position with a city practitioner to take charge of his books and do collecting. Would not object to assist in office occasionally. For further information address "Doctor," care of Dr. A. T. MacNamara, 2052 Davenport Road, Toronto.

The permanent Committee of the International Congresses of Medicine gives notice that three prizes will be awarded during the International Medical Congress in London next August. The Moscow prize of 5,000 francs, instituted in commemoration of the twelfth congress, which was held in that city, is given for the best work done in medicine or hygiene, or for distinguished services in the cause of suffering humanity. The Paris prize of 4,000 francs, founded at the thirteenth congress, will be awarded to the person judged to have made within the last ten years the most important original contributions to the advancement of medicine, surgery, obstetrics, or to anatomy or biology in their applications to medical science. The Hungary prize, which was established by the sixteenth congress at Budapest in 1909, is awarded for some work in medical science which has been published in the interval between one congress and the next. This prize is of the value of 3,000 crowns. The Permanent Committee is prepared to receive suggestions to guide it in the award of these prizes. Communications, which must reach it before June 1st next, should be addressed to the Committee at 10 Hugo de Grootstraat, The Hague, Holland.—*B. M. J.*

BANQUET TO DR. STEVENSON

The banquet tendered to Dr. Robert A. Stevenson at the Toronto Club, Friday, May 23rd, was one of the most interesting functions of the sort ever held in Toronto. Dr. Stevenson in his boyhood days took part of the Arts course in the University, attending lectures for a time in University College. He then went to Montreal, and took his medical course at McGill, graduating in 1871. After practising for a number of years in Western Ontario he came to Toronto and engaged in general practice, being very successful almost from the "start."

He joined the local medical societies, and became a member of the medical staff of Grace Hospital. His associations with all the members of that staff have been very intimate for many years, but he was also well and favorably known by all classes of the profession in Toronto, being generally recognized as an able physician, a skilled anæsthetist, and a *cultured gentleman*.

He left Toronto for England, June 22, 1912. His friends in Canada were grieved to learn, in the latter part of September, that he was seriously ill in London. As a consequence his right leg was amputated, October 12th. The reports for several weeks were very gloomy, and it was feared that he would not return to Toronto alive. After the middle of October the reports became much brighter, and strong hopes for his recovery were entertained. Fortunately these hopes were fulfilled, and, after he passed the crisis, his recovery was rapid, and as satisfactory in every respect as could be expected under the circumstances. When he returned to Toronto his friends were delighted to find him looking so well and "fit."

His confreres on the staff of Grace Hospital conceived the idea of entertaining him in some way, and decided on a banquet in the Toronto Club. It was soon found that a large number of his friends outside of "Grace" would like to join in entertaining and honoring Dr. Stevenson. Only a limited number of those who would like to have attended could be accommodated on account of limited space in the club dining room. However, there was a happy crowd present, and a most enjoyable evening was spent.

Dr. Bruce Riordan was Chairman, and Dr. J. H. McConnell, Secretary, of the Committee of Arrangements. After the toast to His Majesty had been duly honored, the Chairman, in a few kindly and well chosen words, proposed the health of the guest

of the evening. Dr. Stevenson made a very charming reply, in which he expressed his appreciation of the kindness of his friends in general, but especially those who had organized this banquet. There were no set speeches, but a number of those present said some nice, happy things about the guest of the evening. Apart from the great pleasure and satisfaction in entertaining a distinguished and much loved physician there was a general feeling of good fellowship in the atmosphere. When we were singing "Auld Lang Syne" and saying good-bye, the general feeling seemed to be, "Happy to meet, sorry to part, happy to meet again."

Among those present at the banquet were: Drs. Bruce Rior-dan, Bert McConnell, Mr. I. H. Cameron, Drs. B. Nevitt, A. Primrose, J. T. Fotheringham, Chas. Sheard, F. Drake, London, Adam Wright, H. J. Hamilton, H. C. Burritt, A. A. Macdonald, D. King-Smith, G. H. Burnham, Graham Chambers, P. Hardy, N. A. Powell, G. B. Sylvester, J. C. Patton, J. Hull, J. E. Elliott, W. H. B. Aikins, D. Anderson, H. B. Anderson, F. Clarkson, S. Singer, S. Moore, J. Serson, W. D. McPherson, Gordon Rice, C. E. Treble, Allen Baines, G. McDonagh, Milton Cotton, W. J. Defries, J. W. Wingham, R. S. Pentacost, A. C. Hendrick, C. Gil-mour, W. A. Cerswell, C. Cumming, H. R. Holme, R. A. Thomas, John Malloch, D. N. MacLennan, G. Caesar, T. Kerr, F. Moore, H. C. Wales, W. H. Harris, Mortimer Lyon, K. Mcllwraith, Sam'l Johnston, H. Livingstone, T. McKenzie, B. E. McKenzie, C. R. Cuthbertson, Forbes Godfrey, Gilbert Royce, G. D. Porter, Geoffrey Boyd, H. Beatty, J. McBeth, E. B. Hardy.

Personals

Dr. Vaux, of Toronto, sailed for England May 23rd.

Dr. Elias Clouse returned from Atlantic City May 15th.

Dr. A. Orr Hastings, of Toronto, left May 22nd for England and the Continent.

Dr. Fitzgerald, of London, spent a few days in Toronto in the middle of May.

Dr. Charles O'Reilly returned to Toronto after a trip to Ireland and England, May 31st.

Dr. and Mrs. Thomas Armstrong, of Yonge Street, Toronto, celebrated the fiftieth anniversary of their wedding May 21st.

Dr. E. Jones, of Toronto, sailed from New York May 10th on his way to Germany.

Dr. Charles Sheard, Toronto, spent a part of the month of May in New York City.

Dr. J. Orlando Orr sailed from Liverpool May 8th and reached Toronto May 17th.

We have to announce with deep regret that Dr. Macdougall King is somewhat seriously ill at Ste. Agathe.

Dr. F. Arnold Clarkson, Secretary of the Ontario Medical Association has moved from 471 College St. to 421 West Bloor St.

Dr. Fred Winnett, of Sherbourne Street, has sold his house on Sherbourne Street, and is staying at the Prince George Hotel.

Dr. Jno. W. S. McCullough, Chief Officer of Health for Ontario, delivered the address before the Engineer's Club, 90 King St. W., Toronto, April 11th, taking as his subject, "The Evolution of Public Health."

Dr. S. M. Hay is taking a four months' trip in Europe, visiting the main surgical clinics in Great Britain and on the Continent.

Dr. and Mrs. Joseph Bascom, of Toronto, celebrated the fiftieth anniversary of their marriage at their home, 1339 King St. West, May 2nd.

Drs. H. G. Barrie and H. D. Cowper, both of Toronto, were admitted members of the Royal College of Surgeons, England, May 8th.

Dr. Jane P. Sproule, of Toronto, has removed from her former address, 52 Carlton Street, to the Royal Bank Building, 2 Bloor St. East, May 1st.

Congratulations to Dr. Geo. W. Ross on his marriage. He returned from his wedding trip May 5th and resumed practice at 627 Jarvis Street.

Dr. George McDonagh, of Toronto, returned to his home after a trip to New Zealand and Australia, May 3rd, and commenced practice in his office May 5th.

Dr. A. Smirlie Lawson is now practising in Toronto, having his office at 52 College Street, in the house formerly occupied by Drs. Charles and Brefney R. O'Reilly.

The following have been appointed Governors of the University of Toronto: Messrs. W. K. George, Home Smith, Eric Armour and Charles H. Mitchell, engineer.

Dr. Charles Sheard, Jr., has returned to Toronto after an absence of three years, during which time he was engaged at post-graduate work in Great Britain and on the Continent.

Dr. T. A. Loamer, a graduate of McGill University, was appointed Medical Health Officer to the City of Ottawa, at an initial salary of \$4,000, April 28th. Dr. Loamer is at present in Paris, taking a special course of study, but has notified the authorities that he will accept the appointment. He succeeds Dr. W. T. Shirreff, who resigned several months ago.

Dr. J. W. S. McCullough, of Toronto, Chief Officer of Health for Ontario, and Dr. Charles Hodgetts, of Ottawa, will sail for England July 5th to attend the English-speaking Conference on the Prevention of Infant Mortality, in London, August 4th and 5th, immediately before the World's Congress of Physicians. They will also investigate new sanitary procedures in Great Britain and on the Continent.

Sir William Osler, Bart., visited Toronto May 9th. He was entertained at 5 o'clock tea in the York Club, May 10th, by Dr. Richard A. Reeve. He left Toronto for Montreal May 12th, and sailed from the latter city for Liverpool May 15th. On the 14th a banquet was held in his honor by the Montreal Medical Society. We are glad to be able to announce that, notwithstanding certain rumors respecting his condition in Boston, he is in excellent health.

W. B. Saunders Company, publishers, of Philadelphia and London, have issued another edition (17th) of their handsome illustrated catalogue.

In going through this edition we find it describes nine new books and ten new editions, not described in the previous issue. These new books are of great interest to the medical man, because they treat of subjects being daily discussed in medical circles.

Any physician can get a copy of the Saunders catalogue by dropping a line to these publishers. A copy should have a place on the desk of every physician, because it is most valuable as a reference work of modern medical literature. Send to Saunders to-day for a copy.

Obituary

E. H. HART, M.D.

Dr. E. H. Hart, well known in Toronto and Montreal as a surgeon and missionary worker in China, died April 14th at Wu Ko, China, where he had been engaged in hospital work for the United States Methodist Episcopal Church.

S. C. MACLEAN, M.D.

Dr. Maclean died at his home in Spencerville, near Brockville, April 16, aged 67. He graduated M.D. from Queen's University in 1874. He practised in North Augusta and Bishop's Mills before going to Spencerville.

RANKINE DAWSON, M.D.

Dr. R. Dawson, third son of the late Sir William Dawson, died in London, England, April 1st, aged 55. He graduated B.A. in 1878 and M.D. in 1882 from McGill.

LORNE CAMPBELL, M.D.

Dr. Lorne Campbell, son of the late Dr. G. W. Campbell, of Montreal, died at Peaton, Scotland, March 26th, aged 58. Dr. Campbell was born in Montreal and graduated M.D. from McGill in 1882. After doing post-graduate work in Edinburgh and Vienna he practised for some time in Montreal. Six years ago he went to Scotland, where he resided up to the time of his last illness.

JAMES McBRIDE WOODS, M.D.

Dr. J. M. Woods died at his residence, 859 College Street, Toronto, after receiving a fracture of the skull through a fall downstairs, April 20th, aged 74. He received his medical education in the Toronto Medical College and was in practice over fifty years, of which the last thirty-three were spent in Toronto.

DR. E. L. SHURLY

In the death of Dr. E. L. Shurly, of Detroit, which took place suddenly on the evening of May 10th, the medical profession at large have sustained a deep and abiding loss. As a skilled laryngologist he had a world-wide reputation, for to this field and to the fight against tuberculosis he devoted his life work. For more than a quarter of a century he was lecturer upon throat diseases in Detroit Medical College, and during that period was the author of his well known text-book upon "Diseases of Nose and Throat," which had a wide circulation and passed through several editions.

Dr. Shurly possessed a genial and kindly heart. Loved and revered by a wide circle of friends, his memory will be gratefully cherished, not only in his own city and country but in Western Ontario as well.

INFLUENZAL MENINGITIS, ANTI-INFLUENZAL SERUM

Some four years ago, Dr. Simon Flexner perfected the anti-meningitis serum which now is the recognized treatment for acute cerebro-spinal meningitis, and has in its use, reduced the awful mortality in that disease from 80% to nearly 20%. In his goodness of heart and generosity, he was anxious to spread this blessing everywhere. For this purpose he chose various centres from whence the distribution should take place, and amongst these, we are glad to announce, was the Hospital for Sick Children in Toronto.

He has also been working for some years upon the meningitis caused by influenza, and has at last succeeded in perfecting a serum of undoubted value. This discovery he has again, with characteristic kindness, immediately given into the hands of the medical profession, and the only remuneration he demands is a full clinical report of the cases in which it is used. The benefit of this serum also has been given to the Hospital for Sick Children, Toronto, and can be obtained upon application. Moreover, the Board of that institution will, at the request of any physician, send one of its laboratory physicians to make the subdural puncture, give a thorough bacteriological examination of the fluid, and administer the spinal injection in suitable cases. This, we feel sure, will be a boon to any physician not having the necessary time or technique at his disposal. The accompanying letter speaks for itself.

The Rockefeller Institute for Medical Research.
66th Street and Avenue A., New York.

February 21, 1913.

Dear Dr. Baines:

We have been engaged for some time in the study of the treatment of influenzal meningitis with a specific anti-influenzal serum. The effects of the serum treatment in experimental influenzal meningitis are very satisfactory and we are now prepared to supply the serum made in the horse, in moderate quantities, to a selected number of physicians for use in human cases. The method of application is similar to that which is employed in the treatment of epidemic meningitis with the antimeningitis serum—that is, the anti-influenzal serum is injected subdurally in lumbar puncture.

Would you kindly inform me whether you would like to have some of this serum on hand for use in suitable cases that may arise in your locality? The serum should, of course, be used only when a definite bacteriological diagnosis of influenzal meningitis has been made. It will be necessary, however, to apply it as early as possible in the course of the disease in order that good effects may be hoped for.

In the event that you accept this offer I should like you to make it known to physicians that you possess the serum and are willing and able to apply it in suitable cases. You may recall that this is the method we pursued originally with the anti-meningitis serum. I wish to stipulate that copies of the histories of the cases in which the serum has been used should be returned to me as promptly as possible. You would, of course, be free to make any publication of the cases that you desired.

Yours very truly,

(Signed) SIMON FLEXNER.

Dr. Allen Baines, 228 Bloor St. W.

THE INTERNATIONAL MEDICAL CONGRESS IN LONDON, AUGUST, 6th-20th, 1913

The Seventeenth International Congress of Medicine, which will be held in London next August under the patronage of H. M. the King, will be opened by H. R. H. Prince Arthur of Connaught as the representative of His Majesty at a meeting in the Albert Hall at 11 a.m. on Wednesday, August 6th. The last meeting of the Congress in London took place in 1881, when Sir James Paget was President. This year the President is Sir Thomas Barlow.

The Central Office of the Congress will be in Albert Hall. The sectional meeting will be held in rooms in the School of Science, the School of Art, and the Central Technical College. These bodies have generously placed their buildings, which are all close together in South Kensington, at the disposal of the Congress. The Royal College of Physicians, the Royal Society of Medicine, St. Thomas' Hospital, the Royal Army Medical College at Millbank, and the Royal Dental Hospital are also offering accommodations for sectional meetings. The Students' Union of the Imperial College will serve as the men's club, and the authorities of Alexandra House have kindly lent rooms for a ladies' club. A meeting place for Canadians and the Canadian Committee will be situated in the Imperial Institute.

There are in all twenty-six Sections and Sub-sections. Their sessions will be held in the morning and in the afternoon. The morning sessions will be devoted to discussions on fixed subjects, which will be introduced by eminent medical men from every part of the world who have been invited for the purpose. The invitations have been very generally accepted, and there seems no doubt that the discussions will be of great interest and importance. The work which the several Sections purpose to do will be noticed in future issues.

Five general addresses have been arranged. These will be delivered by Professor Chauffard (Medicine), Professor Harvey Cushing (Surgery), Professor Ehrlich (Pathology), Mr. W. Bateson (Heredity), and the Rt. Hon. John Burns, M.P., President of the Local Government Board (Public Health). They will be delivered in the Albert Hall.

It is estimated that about 5,000 medical men and 2,000 ladies will attend the Congress.

The organization of the Congress has been going on for nearly three years. It will give some idea of the magnitude of the task to state that it has taken a complete year to arrange the personnel of the various committees, and another complete year to settle the programme of discussions in the Sections. The latter was issued on September 30th last. There are several discussions for which two or more Sections are combined. At the present time the reports drawn up by those chosen to introduce the discussions are being received and set up in type. It is hoped that all these reports, which will form the basis of the discussions, will be printed and bound as a separate volume for each Section before the Congress opens. A second volume for each Section will be published subsequently, containing the speeches delivered and the independent papers presented at the Congress itself.

A circular will be issued on April 30th giving information on travelling facilities, both to London and in London, on hotels and boarding houses, on the locations of the various sections, and on other points likely to be useful to members. Early in June the final programme of the scientific business will be published, which will include the list of independent papers accepted by the Sections and the names of intending speakers.

Subscriptions to the General Fund of the Congress should be forwarded to the Treasurers of the Seventeenth International Congress of Medicine, 13 Hinde Street, W., London. It should be borne in mind that the membership subscription of £1 only suffices to meet the expenses of producing the Volume of Transactions subsequently delivered to each member. The entire cost of organization and conduct of the meeting has, therefore, to be provided for by private subscriptions to the General Fund. A list of the subscriptions already received will be published shortly.

SECTION OF MEDICINE.

The President is Sir William Osler, Bart.

The meetings of the Section will be held at the Royal Society of Medicine, 1 Wimpole Street, and its work will comprise (1) discussions, (2) selected papers, (3) a clinical museum, and (4) demonstrations of clinical apparatus, methods, etc. The following discussions have been arranged:

August 7th—The Clinical Aspects of Hæmolysis. Reporters: Professor G. Banti (Florence) and Professor F. Widal (Paris)

August 8th—Correlations of the Organs of Internal Secretions and Their Disturbances. (Jointly with Section II., Physiology.) Reporters: Professor E. Gley (Paris), Professor Dr. Baron Alex. von Koranyi (Budapest), and Professor Dr. Frederick Kraus (Berlin). Drs. Bernard, Carnot, and Claude (Paris), Biedl and Falta (Vienna), Hedon (Montpelier), Meltzer (New York), and Ferrannini (Camerino) have intimated their intention of taking part in the discussion.

August 9th—The Pathology of Heart Failure. Reporters: Professor H. Vaquez (Paris), Professor Dr. H. F. von Wenckebach (Strassburg).

August 11th—Diabetes. Reporters: Professor George Dock (St. Louis, U.S.A.) and Professor Dr. Karl von Noorden (Vienna).

August 12th—Differentiation of the Diseases included under Chronic Arthritis. Reporters: Professors L. F. Barker (Baltimore, U.S.A.) and Professor Dr. Freidr. von Müller (Munich).

The afternoon sittings will be devoted to the reading and discussion of independent papers. Among many already promised the following may be mentioned:

Treatment of leukaemia with benzol (A. von Koranyi). Treatment of pulmonary tuberculosis by artificial pneumothorax (Ch. Saugman). Insuffisances pluriglandulaires (H. Claude, Paris). Der augenblickliche Stand der Diagnosis der Pancreas-Erkrankungen (F. Wohlgemuth, Berlin). Chronic bacterial endocarditis, with a series of preparations illustrating the condition from the Pathological Museum, Mount Sinai Hospital, New York (E. Libman). The recognition of the status lymphaticus in adults (Haven Emerson, New York). Diagnosis and treatment of duodenal ulcer (Max Einhorn, New York). A modified form (?) of sporadic typhus, Brill's disease (Brill, New York).

Demonstrations of clinical cases of special interest will be held in connection with the morning and afternoon meetings of the Section, and a strong committee has been formed to bring together the best available material for this purpose. Facilities will also be given to any member of the Section who wishes to demonstrate any new clinical apparatus or clinical method. All applications should be addressed to the Acting Secretary, Dr. W. Pasteur, 4 Chandos Street, Cavendish Square, W.

The dinner of the Medical Section will be held at the Connaught Rooms on Friday, August 8th. For information about the dinner members of Congress are requested to apply to the Secretary of the Dinner Committee, Mr. George Bethell, 11 Chandos Street, Cavendish Square, W.

SECTION OF SURGERY.

The Surgical Section will meet under the presidency of Sir W. Watson Cheyne, Bart, F.R.S.; connected with it are the Sub-sections of Orthopædics, presided over by Mr. Robert Jones, of Liverpool, and Anæsthetics, with Dr. Dudley Buxton in the chair.

The meetings of the principal section will take place in the large lecture theatre on the ground floor of the Imperial College of Science and Technology.

The list of set subjects for discussion are: (1) The operative treatment of malignant disease of the large intestine, excluding the rectum, introduced by Professor Bastianelli, of Rome, and by Professor Körte, of Berlin. (2) A discussion, conjointly with the Section of Neuropathology, on the treatment of tumors of the brain and the indications for operation. Professor Bruns, of Hanover; Professor Harvey Cushing, of Harvard University; Professor von Eiselsberg, of Vienna; and Dr. Howard Tooth will speak. (3) A discussion on the diagnosis and treatment of early renal and vesical tuberculosis will be held jointly with the Section of Urology. It will be introduced by Professor Leguen, of Paris; by Professor Rochet, of Lyons; and by Dr. Wildbolz, of Berne. (4) The surgery of the arterial system will be reported upon by Professor Matas, of New Orleans, and Professor Oppel, of St. Petersburg. (5) Intrathoracic surgery will be considered on the last day of the Congress by Professor Sauerbruch, of Zürich, and Professor Tuffier.

Papers will also be read by individual members. Many have already been received, but it is noteworthy that they all come from abroad, and no English surgeons have yet offered any contribution. There seems, too, to be some ill-defined idea that the Section is a gathering of London surgeons who are inviting their colleagues from other countries. This is in no sense true. It is the surgeons of the United Kingdom who are endeavoring to make an international congress as truly representative of British surgery as is possible. The vice-presidents, the council, and the secretaries of the Section have been chosen, therefore, with a due regard to representation of surgery in England and the provinces, in Scotland, Ireland, and His Majesty's oversea dominions.

ASSOCIATION MEETINGS

Canadian Medical Association

The following is the general programme of proceedings of the Association, which is to be held in London on June 24, 25, 26 and 27. The programme for the various sections is a particularly attractive one, and the meeting promises to be one of unusual interest.

FIRST DAY.—TUESDAY, JUNE 24.

- 9.00 a.m. Registration Fees.
Meeting of Executive Council.
- 10.00 a.m. Meeting of Sections.
- 2.00 p.m. Meeting of Sections.
- 8.30 p.m. General Meeting:
Invocation.
Address of Welcome.—His Worship the Mayor of London.
Election of the Association's Members to the Executive Council.
Address in Surgery.—Dr. J. Alexander Hutchinson, Montreal.
Address in Gynæcology.—Dr. T. S. Cullen, Baltimore.

SECOND DAY.—WEDNESDAY, JUNE 25.

- 9.00 a.m. Meeting of Sections.
- 12.30 p.m. Luncheon at Victoria Hospital.
- 2.00 p.m. Meeting of Sections.
- 8.30 p.m. General Meeting:
President's Address.—Dr. H. A. McCallum, London.
Address in Medicine.—Dr. Llewellys F. Barker, Baltimore.

THIRD DAY.—THURSDAY, JUNE 26.

- 9.00 a.m. Meeting of Combined Sections.
Symposium on Diseases of the Stomach, Medical and Surgical Aspects.—Introduced by Dr. McPhedran, Toronto.
Meeting of the Canadian Medical Protective Association.

- 2.00 p.m. Meeting of Combined Sections.
 Symposium of Diseases of the Thyroid, Medical and Surgical Aspects.—Introduced by Dr. A. J. Ochsner, Chicago.
- 4.00 p.m. General Meeting for General Business.
 Meeting of Executive of Ontario Medical Association.
- 8.00 p.m. Public Lecture (with lantern slides) on "National Health."—Dr. Helen MacMurchy.
- 8.30 p.m. Members of the Profession resident in London will entertain the Members of the Association at a Smoking Concert in the New Masonic Hall.

FOURTH DAY.—FRIDAY, JUNE 27.

- 9.30 a.m. Dr. Frank Billings, Chicago, will conduct a Medical Clinic before the Association.
 Experimental and Clinical Study of the Functional Activity of the Liver.—By Dr. G. L. Rowntree, Johns Hopkins.
- 2.00 p.m. Dr. John B. Murphy, of Chicago, Chloro-phthalein, will give a lantern lecture on Surgery of Bones and Joints.

Annual Meeting American Medical Editors' Association

The annual meeting of this society will be held June 16th, at the Hotel Radisson, Minneapolis, Minn.

An interesting programme has been prepared, covering items of journalistic as well as general information.

The annual banquet will be held on the evening of the 16th at the Hotel Radisson.

London Medical Society

At the last meeting of the London (Ont.) Medical Society Dr. Meek read a paper on "Cancer of the Uterus," emphasizing the importance of early recognition. The following officers for the present year were elected: President, Dr. C. H. Reason; Vice-President, Dr. W. J. Tillman; Secretary-Treasurer, Dr. L. S. Holmes.

London Health Association

The annual meeting of this Association was held in London, April 2nd. It was decided that in future the annual meeting should be held on the second Wednesday in October instead of the first Wednesday in April.

St. John Medical Society

At the March meeting of the St. John, N.B., Medical Society, Dr. F. N. G. Starr, of Toronto, presented a bound copy of the address delivered by the late Dr. Bayard at Kingston in 1895, when he was President of the Canadian Medical Association.

Huron County Medical Association

At the last quarterly meeting of the Huron County Medical Association, held at Seaforth March 26th, Dr. H. A. McCallum, of London, Ont., delivered an address. Papers were also read by Dr. Gunn, of Clinton; Dr. Burrows, of Seaforth; Dr. Michell, of Dublin. The next meeting of the Association will be held in June in Wingham.

Brant Medical Association

At the last meeting of the Brant County Medical Association, held in Brantford March 13th, Dr. Ingersoll Olmsted read a paper, which was discussed by Dr. E. R. Secord, Dr. C. C. Fissette and others.

Selections

The Treatment of Arthritic Rheumatism

P. Junghans is of opinion that the treatment of rheumatic affections with antipyretics has been disappointing (*Deut. med. Woch.*). He finds that salicylic acid is not a specific remedy, and that the most it can do is to reduce fever, relieve pain, and diminish the joint swelling. Menzer has found that better results can be obtained without salicylates by local and general application of warmth. The author has therefore treated a number of rheumatic cases without salicylates. He placed the affected joint at rest, usually by means of a splint. The joint was painted with ichthyol and well packed with many layers of wool. In 21 out of 45 cases this alone effected a complete cure. In those cases in which this more or less expectative procedure did not suffice he applied either local heat or Bier's hyperæmia. In 24 cases he found that an active method of treatment was required. The high price of Menzer's antistreptococcic serum formed a bar to its general use. He therefore turned his attention to collargol in those cases in which salicylates proved useless. He preferred giving intravenous injections to applying the collargol per rectum, partly because the action is more rapid, and partly because it is easier both for the practitioner and for the patient. The dose employed was 2 c.cm. of a 5 per cent. solution. Rectal application, however, yielded excellent results. He was able to observe a rapid and permanent cure in the majority of his cases; severe recurrences were scarcely met with, and the heart remained free from gross lesions. In those cases in which a cardiac affection was already present the condition of the heart tended to improve, or at all events not to get worse. He recommends this form of treatment for all cases of rheumatism.—*B. M. J.*

The Luetin Skin Test

Some who have carefully considered the comparative advantages of the Wassermann and the luetin test have expressed the belief that each possesses value not found in the other. Thus Rytina (*N. Y. Medical Record*) speaks of the positive luetin reaction in late stages of syphilis actively treated, in which the Wassermann was negative. In other words, in the later stages of a treated case the luetin is a more delicate test than the Wassermann. In this type of cases it has been claimed that the luetin test gives 100 per cent. positive results. Noguchi main-

tains that luetin is positive in 100 per cent. of active tertiary syphilis, and in 94 per cent. without symptoms.

Rytina's conclusions are that:

1. The luetin is entirely harmless.
2. It is specific.
3. While the technique is comparatively easy and could be still more simplified by putting up in ampoules the full dose, ready for use, it requires a little practice and experience to make the application properly and interpret correctly the mild form of positive reaction.
4. It is mostly negative in primary and secondary untreated cases, but shows a large percentage of positive reactions, in such cases, receiving previous treatment.
5. In congenital, latent, and tertiary syphilis it is practically 100 per cent. positive. In parasyphilis it is positive in a large percentage of cases.
6. The luetin test is less constant than the Wassermann reaction in primary and secondary syphilis, but possesses greater value as a diagnostic agent than the latter in tertiary, latent and congenital cases and parasyphilis. Furthermore, it possesses greater prognostic significance than the Wassermann in determining when syphilis is cured.—*The Urologic Review*.

Operative Treatment of Congenital Club Foot

Dr. V. Buelow Hansen (cited in *Münch. med. Wochensch.*) has operated upon 28 cases of congenital club-foot in the past three years (exclusive of the paralytic form), 16 being bilateral. The operative procedures employed comprised chiefly cuneiform tarsectomy and transplantation of one-half of the Achilles tendon to the peroneus longus or brevis, besides elongation of the other half of the tendo Achillis. More or less paralysis of the peronei, especially the peroneus brevis, was present in 9 of 28 cases. This explains why, after the most careful redressement, there is apt to be a recurrence of club-foot in these cases. Treatment after operations lasted from six to eight weeks. The first dressing was allowed to remain for five weeks, when the sutures were removed and an appropriate boot ordered. This was so made that the sole and heel on the outer side were raised about one-fifth inch. In the first two months the patient should wear the boot even at night. No after-treatment was found necessary except massage of the calf muscles. Recurrences were not observed and the improvement in function was greater than under the customary methods.—*International Jl. of Surgery*.

Children Better Without Tea and Coffee

In childhood the emotional nature is peculiarly susceptible to stimuli, mental and material.

The young, expanding mind of the normal child is ever open to Life's mysteries, and the aim of parent, teacher and family physician should be to promote and maintain a healthy balance between physical and mental development.

Tea and coffee, on account of their alkaloid, caffeine, stimulate the emotional and imaginative faculties, and, in children, are little less than a **menace** to normal well-being and the highest development.

Experience and comparison of effects in many instances have demonstrated that children of excitable, unstable nervous system while habitually allowed tea or coffee at regular intervals, have gained stability and poise of nervous activity when put upon

INSTANT POSTUM

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A level teaspoonful makes it right for most persons. A big cup requires more, and some people put in a heaping spoonful, temper it with a large supply of cream, and it has a snap and go which pleases some palates.

Experiment until you know the amount that pleases your taste and have it served that way.

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Miscellaneous

Medicine and the Law

"Every lawyer when young should be apprenticed to some good physician, and should return to him regularly through life," says Mr. G. M. Stratton in contrasting the spirit of medicine with the spirit of law. In accepting this graceful appreciation our profession might reply as simply as did Mark Twain, who, in responding to the toasts at a dinner given in his honor, said that never before had he heard compliments so beautifully expressed or so well deserved.

Stratton, speaking of the spirit pervading each of these professions, finds that lawyers as a body, in their professional work, are "of the backward look," while physicians keep pace with the advance of the natural sciences. The body of the law stands immovable, for it "represents the stability, the habit of our social life," as against the creative energy of reform. "Of two Rip Van Winkles awakening to-day, the physician would find his old methods as rust-eaten and useless as his instruments; the lawyer, after a few hours with new statutes, would feel at home in any of our courts." Too often the aim seems to be to play out a game with punctilious regard for all the rules, however minute, fantastic or technical, rather than to decide a weighty question with due sober respect for the grave human issues involved. Thus "an action for murder comes to naught because the complaint fails to state that John Smith slain was a human being." Then, too, the lawyer passes through the school of advocacy. In practice he is ready to fight on either side. This robs not only the attorney but also the judge of whatever rounded view he might otherwise have of his larger social duty, his responsibility to the public. The object of medicine is not in conflict with other social needs. The physician does not heal one man at the cost of the health of another. The lawyer too often defends one man's rights at the expense of another's. "The individual lawyer is not free to put into operation some entirely new principle the value of which he may perceive; he is not free to experiment effectively," as is the physician. It is to offset the deadening influences of the lawyer's work that Stratton advises him to seek inspiration from medicine. By intercourse

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It is interesting to note that the makers of this car, the Waverley Company of Indianapolis, have had sixteen seasons of electric carriage building, and the 1912 car is the product of the accumulated experience of these years.

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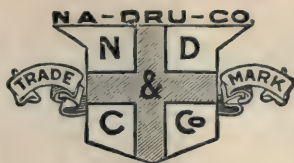
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with the physician he may find the spirit which is lacking in his own profession.

Stratton's evident sympathy with the medical side of his contrast leads one to fear that he looks solely on the limitations of the one great profession and on the opportunities of the other. On that point let the men of law speak for themselves. It would, of course, be most foolish to regard such a tribute to the spirit of medicine as called forth by personal merit, even that of the masters of the art. Yet the least among us, provided he be sincerely imbued with the spirit of his chosen work and earnestly devoted to its success, is entitled to feel pride as well as satisfaction in the fact that his task is to read the inexhaustible book of living nature instead of the annals of the past.—
J. A. M. A.

Prescriptions by Telephone

In view of the lack of written evidence, it is difficult to fix positively responsibilities for errors in prescriptions which have been telephoned by the physician to the pharmacist. The use of the telephone offers so many advantages that it seems impracticable to interdict it; but when communicating prescriptions to pharmacists by telephone the physician should take unusual precautions to insure his patient against possible misunderstanding. The medical and pharmaceutical associations of Copenhagen have jointly proposed to the board of health that the use of the telephone in transmitting prescriptions should be permitted only for short distances and in exceptional cases, and have suggested that the following procedure should be observed: the doctor must write out his prescription and then telephone it in Latin. No one except a qualified pharmacist shall be permitted to take down the telephoned prescription. On receiving such a prescription, the pharmacist must write out the entire prescription, including the name and address both of the doctor and of the patient. He must then read it out to the doctor over the telephone. All telephoned prescriptions must be copied in a special book by the pharmacist. Immediately after telephoning the prescription, the doctor must send a written prescription to the pharmacy. This written prescription must be kept in the book, together with the copy taken down from the telephone by the pharmacist. In the case of a simple solution of morphine, of cocaine, or of tincture of opium, not more



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although their sale has been phenomenal are really no better than other National Fluid Extracts, it is because they are very important lines and have never failed to respond in anxious moments, that gives them the high place in the estimation of the profession. Every other line is prepared with the same attention to detail, by the same modern methods and with the same pharmaceutical skill, as the three important staples above mentioned, and the full line of National Fluid Extracts are as dependable, to the very limit of the therapeutic value of the crude drugs employed.

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than double the daily dose may be dispensed on the telephoned prescription. These suggestions, being drawn up jointly by the associations of physicians and pharmacists, deserve careful consideration. Indeed, they seem adequately to safeguard the use of the telephone for the transmission of prescriptions; but even with such safeguards there is always a possibility of an error. We should add, as a further precaution, the requirement that the age of patients, except in cases of adults, and the directions for taking must be given in full. Some such method of procedure should be adopted voluntarily by physicians out of regard for the safety of their patients. If not adopted voluntarily, it seems quite probable that safeguards in this direction will be imposed by the legal authorities in view of the increasing use of the telephone in conveying prescriptions to the pharmacists.—*N. Y. Med. Journal.*

Quo Vadis?

The eugenic propaganda is becoming too popular. The modern study of heredity and the tendency to claim omnipotence for the zygote are fraught with distinct danger. When the man behind the paper clearly sees that his physique and character are laid down on purely hereditary lines his next step must be the denial of personal responsibility. The abstract merits of the "free will" and "predestination" schools of thought are only of academic importance, but we have many examples of the havoc caused by a nation's acceptance of predestination as a working principle of life. It binds and suffocates its supporters like a pernicious weed and checks all progress. And this is where the undiluted belief in heredity will lead us. It is so easy to imagine that other people's actions have been determined since time was. We have a perfect consciousness of the power of choice in ourselves, but we can easily imagine the rest of the world swayed eternally by the vibrations of the first cause. Here is the danger. It may be that we are merely the summation of a series of causes and individuality is nothing, but until this is proved it is better for us to regard ourselves as free. We may act as if we can turn either to the right or to the left, as fancy guides us at the next cross-roads.—*Medical Press and Circular.*



Seasonable Thoughts

Vacation time presents its full quota of cases incident to the season.

SPRAINED ANKLES, MUSCULAR STRAINS, SMALL JOINT INJURIES, INFECTIOUS INSECT BITES, BEE STINGS, SEVERE SUNBURN, CONTUSED AND OTHER WOUNDS, while sometimes minor, may develop serious consequences if not given prompt attention.

ANTIPHLOGISTINE applied thick and hot will prove not only convenient, but a most satisfactory dressing, as it will relieve the pain, reduce the inflammation and limit the infection.

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The Clinical Estimation of Blood Pressure

Nesbitt (G. E.), *Dublin Journ Med. Sci.* Approaching this subject from a critical standpoint, the writer notes especially the fallacies which can arise to vitiate the pressure findings. Of instruments, the "armlet" ones are much superior, modifications, most of them, of the Riva-Rocci. The determination of the diastolic pressure is open to wide error. The recently devised method of Lauder Brunton and Oliver for taking diastolic pressure is the most reliable. This is obtained by auscultation over the compressed vessel below the armlet. At a certain point during the raising of pressure a loud thumping becomes audible, and continues for some time (in fact, only fades when systolic pressure is almost reached). This begins at a very definite point, which coincides with diastolic pressure ascertained by physiological methods. Though stress is laid by many workers upon the value of diastolic as well as systolic pressures, the writer emphasizes the difficulty of finding the blamable organ for departures from the normal of the two pressures. The writer rightly notes the fallacy of the conception that arteriosclerosis is necessarily associated with high pressure, and conversely, the conception that low pressure excludes arterial disease. Thus, Groedel found that in 500 cases of arteriosclerosis, 35 per cent. showed no increased blood-pressure.—*The Medical Chronicle*.

The Good Old Summer Time

The coming summer season will no doubt produce its usual crop of cases for physicians peculiar to the season.

Insect bites, bee stings, sunburn and its frequently following dermatitis, strains and small joint injuries from baseball and other sports, sprained ankles, ecchymosed eyes, infected wounds, etc., will demand the first attention of the physician and a second thought will be a suitable remedy.

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A SURGICAL COURSE (attendance limited to 25) from **1st to 27th SEPTEMBER**, which will include Surgical Applied Anatomy, Surgical Pathology, Operative Surgery, Surgical Clinics, &c.

A COURSE ON INTERNAL MEDICINE (attendance limited to 25), from **4th to 29th AUGUST**. This will include series of Clinics upon Diseases of the various systems, with practical Classes upon Applied Anatomy, Haematology, Bacteriology, and the Examination of the Heart, Urine and Digestive Products, Nervous System, and X-Ray Diagnosis.

A COURSE ON DISEASES AND DEFECTS OF CHILDREN (attendance limited to 25), from **14th to 26th JULY**. This Course, which will be suited for Medical Inspectors of School Children, will include Medical and Surgical Clinics, and Special Clinics on Diseases of the Skin, Eye, Ear, Nose and Throat, Teeth, Infectious Diseases and Mental Defects.

A SPECIAL COURSE ON DISEASES OF THE EAR, NOSE AND THROAT, from **1st to 27th SEPTEMBER**, intended for those specializing in this subject.

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Diplosal in Angina and Rheumatic Affections

The action of diplosal in the treatment of angina, with special reference to acute articular rheumatism, is described in detail by O. Braun. He treated 33 cases of angina, including some of a diphtheritic nature, with large doses of diplosal. The patient was given a daily dose of 3 grammes (45 grains) in the course of 15 minutes, combined with the administration of large quantities of elder-flower tea, after which he was well covered up and allowed to perspire for two hours. As a result of this measure, the difficulty in swallowing was usually much relieved or disappeared entirely. This treatment was repeated on the following day. The author considers that the constant good result of this treatment was primarily due to the diplosal medication, as the employment of other salicylic preparations was not equally suc-

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See "The British Medical Journal," Sept. 16, 1911



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cessful. The author also calls special attention to the prophylactic value of diplosal. For whereas other cases of angina were followed by severe articular rheumatism, lasting for weeks, this was absent in several cases investigated by Braun in which diplosal had been used for the treatment of angina.

R. Massalongo and U. Gasperini refer to a number of cases which show that diplosal develops a prompt anti-rheumatic and analgesic action in acute and chronic articular rheumatism, in muscular rheumatism and in neuralgia occurring in a rheumatic subject, even though diaphoresis and temperature are but little or not at all influenced. The compatibility of the preparation and the possibility it affords of introducing large amounts of salicylic acid into the system without harmful by-effects, should, in the author's opinion, in time provide a much wider range of indications for diplosal. This is confirmed in communications by L. Moschetti, who prescribed the preparation with good results in gonorrhœa. When an abortive cure is impossible, the author prefers the internal administration of diplosal in the early stages of acute gonorrhœa, as in these cases injections may lead to inflammatory symptoms. The preparation proved a most useful urinary disinfectant, which, when administered six times in doses of 0.5 gramme ($7\frac{1}{2}$ grains) a day, soon cleared the urine and relieved the burning pains. Disturbances of the digestive tract were never observed. After the early inflammatory symptoms had subsided, the author began the local treatment simultaneously with the administration of balsams.—*E. Merck's Ann. Report, Vol. xxv.*

The Treatment of Ringworm of the Scalp

Garrett, of Cheltenham, in the *British Medical Journal* for February 22nd, 1913, calls attention to a method of treating ringworm of the scalp that he has devised. The strong solution of perchloride of iron is applied with a brush, until the scalp is well stained by it, every second day for six days, and then every third day for eighteen days. At the end of this time a cure is generally found to have been effected. In the beginning the hair should be cut short over the affected places, the scalp well washed, and then cleansed from grease by the use of motor spirit. The head should not be often washed during the treatment. The application has no ill effects, and it does not appear that it need be too scrupulously confined to the areas obviously implicated. Garrett finds that the results of this treatment surpass any other that he has tried.—*Universal Medical Record.*

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"Burning of the Tongue" in Pernicious Anaemia

A sensation of pain and burning of the tongue is an early symptom in pernicious anaemia. Any complaint of this nature should, says Zabel (*Klinisch-therapeutische Wochenschrift*, January 6th, 1913), always lead to a careful examination of the blood. Recently he has had two instances where attention to this symptom would have led to a correct diagnosis much earlier. A woman of fifty years of age came to him for treatment in the last stages of pernicious anaemia. Two years before she had complained of an unbearable burning pain in the tongue, and had consulted several specialists and doctors in England, where she was living, without any help, although continually under treatment. The blood had never been examined. In another case a woman of thirty-eight had been also suffering from this pain for nearly two years; it was almost impossible for her to take food. She consulted oral specialists and neurologists, who gave her electrical treatment in vain. When she came under the writer a blood examination at once showed the conditions. He has seen the same symptom in "simple" severe anaemias, and has often noticed that the trouble disappears when the general condition improves. He has never seen it in leukæmias. He can offer no explanation of the symptom.—*The Universal Medical Record*.

Goitre or Graves' Disease; Which? The Treatment

During several summers of late years my attention has been directed to the relative frequency of large necks in young women who are residents of a village in northern New York. When examined the enlargement is found to be due to parenchymatous goitre. The thyroid gland is not extremely vascular. Occasionally the eyes are staring, but not noticeably prominent. The skin is pale. The menses are irregular. Nervousness is marked. Intermittent flushing appears upon the neck and face. The affection occurs sometimes with an apparent cause; sometimes without one.

The aetiology of these sporadic, or endemic, cases of goitre is difficult to determine. It may be the water, although this does not seem probable, because it is very abundant, comes from a distant spring in the mountains, and, according to analysis, is of exceptional purity. The region itself is very healthful, with mountains on either side and facing a large lake.

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	Calcium Formate - 3 Grs.	
	Quinine Formate - 1 Gr.	
	Strychnine Formate $\frac{1}{80}$ Gr.	

This form of administering the Formates is one largely in vogue for increasing tone in those who go in for physical exertion, such as athletes and men who are very actively engaged, who are merely run down and not suffering from any illness, but require a sharp tonic. The Formates are also useful in the treatment of Chronic Rheumatism.

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—*British Medical Journal*

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One woman, with whose case I am familiar, has either a form of Graves' disease or else myxœdema. A former patient, male adult, who died about two years ago, had a pronounced soft goitre, but otherwise enjoyed good health.

Two girls at puberty, whom I have especially watched, and whom I placed upon iodide of iron, hydriodic acid, iodine, and tannin—believing for a time that they had simple goitre—apparently were benefited; but the size of their necks did not notably diminish. Then, through reading a circular containing commendations from prominent medical men in Germany, I was led to make use, in these patients, of *arsenoferratose*. After two months' treatment the decreased size of their necks and their changed appearance and behavior, which both showed great improvement, impressed me very much.

I have not, hitherto, seen as good and rapid effects produced by any other treatment I have tried or observed in similar cases. I hope that the combined use of arsenic and iron in the preparation referred to, or another equally good, may be effective in a disease or diseases hitherto obscure as to nature and origin.—Dr. Beverley Robinson in the *Amer. Jour. of Clin. Med.*

Neosalvarsan and Salvarsan

Krefting (*Berliner klinische Wochenschrift*) states that in the last two years he has treated 35 people with primary syphilis, beginning his therapeutics at the period when the Wassermann reaction was still negative. Each received three salvarsan injections of 0.5 to 0.6 in men and 0.4 in women, the interval between injections being from fourteen days to three weeks. None exhibited secondary symptoms, and the Wassermann reactions remained negative. Two of these patients became reinfected. He has used neosalvarsan the last month in five cases of primary syphilis without Wassermann reaction, giving three injections to men of 0.75, to women of 0.60, at fourteen-day intervals. Three of the cases gave a negative Wassermann; the fourth became strongly positive after the first injection and remained weakly positive after the third. A single woman exhibited a similar condition. None of the cases showed any secondary symptoms. The author concludes that neosalvarsan is entirely efficient against the clinical manifestations of syphilis, but it does not seem so potent as salvarsan in preventing the development of the Wassermann reaction.—*Therapeutic Gazette*.

The Canadian Practitioner and Review

Vol. XXXVIII.

TORONTO, JULY, 1913

No. 7

Original Communications

HEALTH MATTERS IN ONTARIO*

BY DR. ADAM H. WRIGHT, TORONTO.

It is provided in the Public Health Act of 1912 that there shall be an annual meeting of the Health Officers of Ontario and it shall be the duty of every Medical Officer to attend the conference which shall be held at such time and place as may be determined by the Provincial Board.

At the last meeting of the Canadian Public Health Association the Medical Officers of Health met in a separate section and deemed it expedient to organize this Association, to be designated "The Ontario Health Officers' Association." It will be readily understood and probably generally recognized that this Association will become a great power for good in Ontario. It gives me much pleasure, on behalf of the Provincial Board, to extend a hearty welcome at this our second meeting, and also to express the hope that our meeting will be both pleasurable and profitable.

We rejoice to know that there is a general consensus of opinion that we enjoy the blessed privilege of working under a great chief, the Provincial Secretary, a man who is considered in all parts of the civilized world one of the ablest and most progressive legislators in connection with prison reform and matters pertaining to public health that this or any other country has produced.

One of the most important enactments ever passed by the Legislature of the Province was the Public Health Act of 1912. It would not be fitting on this occasion to discuss in detail the

*Presidential Address delivered at Annual Meeting.

various clauses of that Act. It seems well, however, to refer to the valuable work of the medical men in Parliament during discussions as to the new clauses and the various proposed amendments to the former Act. I should like to refer to one member especially, Dr. J. McQueen, the able, broad-minded representative from North Wentworth, who showed commendable zeal in helping in every way to make the Act as nearly perfect as possible. The result of the combined efforts of the Provincial Secretary and various members of the Legislature was the passage of an Act which is considered by experts in various countries one of the best in the world.

While I have no desire to discuss the whole Act, I should like to refer to one detail. Mr. Hanna, wisely, we think, decided to divide the Province into seven districts. We quote as follows from the clauses referred to:

Section 13. (1) "The Lieutenant-Governor-in-Council may divide the Province for the purposes of the section into not more than ten Health Districts, and may appoint a legally qualified practitioner, to be known as the "District Officer of Health," for each such district.

(2) Every District Officer of Health shall be paid an annual salary of not more than \$2,500 and actual expenses incurred in the discharge of his duty.

(3) The Council of every County forming part of a Health District shall pay to the Treasurer of Ontario such proportion of the salary and expenses of the District Officer, based upon the population of the County, exclusive of the population of any city or separated town within the County, as may be certified by the Chief Officer.

(9) Every District Officer of Health shall act under the supervision and control of the Board, and shall report to it at least monthly, and at such other times as may be required, and shall in such report give such information as may be required by the Board or by the Regulations.

The Provincial Secretary, with his usual forcefulness and thoroughness, decided that the District Officers should be properly prepared and fully equipped for their work. The following solid, level-headed practitioners were appointed:

District No. 1—Counties of Essex, Elgin, Kent, Lambton, Middlesex and Oxford—Dr. D. B. Bentley, Sarnia.

District No. 2—Counties of Bruce, Dufferin, Grey, Huron, Perth, Wellington and Waterloo—Dr. T. J. McNally, Owen Sound.

District No. 3—Counties of Brant, Haldimand, Halton, Lincoln, Norfolk, Peel, Welland, Wentworth and York—Dr. D. A. McClenahan, Waterdown.

District No. 4—Counties of Ontario, Durham, Northumberland, Prince Edward, Hastings, Peterboro, Victoria, Muskoka and Simcoe—Dr. George Clinton, Belleville.

District No. 5—Counties of Lennox and Addington, Frontenac, Leeds, Grenville, Stormont, Dundas, Glengarry, Prescott, Russell, Carleton, Lanark, Renfrew—Dr. P. J. Moloney, Cornwall.

District No. 6—Districts of Nipissing, Parry Sound, Temiskaming and Sudbury—Dr. W. E. George, Haileybury.

District No. 7—Districts of Algoma, Manitoulin, Kenora, Thunder Bay and Rainy River—Dr. R. E. Wodehouse, Fort William.

The new Officers came to Toronto August 1st of last year and took a course of instruction in Practical Hygiene in the University and in the Provincial Laboratories, and also attended various "Health Meetings" in Canada and the United States, including the International Health Congress in Washington. It is now generally admitted by those who have opportunities to judge that these District Officers are doing admirable work. They are, moreover, giving very valuable assistance to the Medical Officers of Health in all parts of Ontario.

We as physicians and Officers of Health have been endeavoring to educate the people as to the best methods of promoting public health, especially by taking reasonable and proper precautions against preventable diseases. Are we making headway? Is Dr. Hastings applying efficient methods in Toronto or does he spend his time chasing roosters out of back yards? Well, gentlemen, I do not happen to know what he has done in this direction, but I do know that he is doing magnificent work for Toronto so far as the health and comfort of its citizens are concerned. I think I can speak also with much confidence as to the administrative work done by the Health Officers of Hamilton, Stratford, St. Catharines, and many other municipalities in the Province.

We are making at least some headway. Our physicians get a bit disgusted at times because their patients appear to be somewhat indifferent about the good advice rendered. But many of these patients do not forget, nor are they ungrateful. In one instance the husband, when dressing in the morning, put his hands in his trousers' pockets and thought he noticed vacant

corners. He said to his wife: "Did you go through my pockets last night, Nellie?" "Yes, dear; Dr. Fotheringham told me I needed a little change." In another instance it came the other way about between husband and wife. The wife said: "John, dear, Dr. Caven says that I need a change of climate." "All right," replied the husband, "the newspapers say that it will be warmer to-morrow." However, gentlemen, we have to consider certain more serious matters in connection with the almost innumerable problems which arise pertaining to public health.

One of the most important health matters of to-day is the disposal of waste and garbage in cities and towns, and I am glad that we shall have papers and discussions on this subject at this meeting. I have watched our methods in Toronto with much interest during the last two years, and I have to confess with much sorrow that they have been as a general rule very crude and unsatisfactory. I think that even Commissioner Harris and Mr. Wilson will agree with me in that regard, and I note that they contemplate making many improvements in the near future. I have noticed that one household may handle its garbage in such a loose and objectionable way that it becomes a positive nuisance to a comparatively large neighborhood. I think, however, that there is one feature that has been to a certain extent overlooked. A large amount of the waste and garbage could be burned in the house. In many instances the householders might burn four-fifths of the garbage they dump into their back yards or on the streets. To obviate some of the difficulties, it might be found profitable to employ more sanitary inspectors to teach householders how to dispose of their garbage within doors, and thus reduce the work of carting it away at least one-half.

One of the best features as to sanitary matters in recent years is the great interest taken by the lay press in everything pertaining to the health of the people. While there are some carping critics, most of the writers in magazines and newspapers discuss health problems in a remarkably intelligent way. Sometimes local politics appear to have too much influence in editorial utterances. It appears, however, that our local press in the city of Toronto is disposed to be eminently fair and just. So far as I know, the same may be said as to the work of the lay press in all parts of Ontario. It seems to me also that the members of the councils of all municipalities, large or small, are taking an increased interest in such matters and are helping and encouraging their Officers of Health more than ever before.

It will be remembered that early in January last things appeared to be going wrong with our filtration plant and other things in connection with our water supply in Toronto. The cry was raised that we should at once bring a British expert out to investigate. I ventured to suggest to the Mayor and certain controllers that it was unnecessary and unwise at that time to consult an outsider. I thought that the matter might better be investigated by Commissioner Harris, Dr. J. W. S. McCullough, Dr. Hastings and Dr. Amyot. These are able men and know the situation and all of the difficulties, and are well qualified to investigate and solve such difficulties. I may say that I offered this suggestion as a ratepayer and not in any official capacity, because I had no authority from our Provincial Board of Health, which has no desire to dictate to any municipality unless interference becomes actually necessary. It gives me much pleasure to say that I have always been treated with the utmost courtesy when I made any suggestions to the Mayor, Controllers or Commissioner Harris.

My very pleasant relationship with these men, and the wondrous kindness of the whole Council of the city of Toronto, give me a certain amount of courage in speaking on this occasion. I desire to say a few words about a question of vast importance, that is, the purchase of the Toronto Street Railway and the unification of the whole local railway system. I shall not attempt to discuss the financial features of the purchase, partly because I feel that I scarcely have enough financial ability to run a peanut stand. I shall say something from the standpoint of morality and health. The overcrowding of our street cars, especially in the winter months (for which, so far as I understand, the citizens and not the railway authorities are responsible), means a serious peril for the passengers.

In a general way it may be stated that the air in the closed car which is overcrowded becomes intensely foul. Under such circumstances certain diseases are produced, such as tuberculosis, quinsy, "ulcerated" sore throat, diphtheria and many other ailments, including various forms of loathsome diseases of the skin. In addition, it appears to me that the great majority of our citizens do not appreciate the terrible indecency arising out of the worst possible form of crowding, that is, the men standing in the aisles and the women sitting on the benches. The conditions have become so intolerable at times that respectable women and girls will walk miles rather than take chances in the street cars during "busy hours." Of course, providing the remedy for

the overcrowding would cost something; but, considering the great improvements that would result as to comfort, health and morality, it would appear that the cost would be a small matter in comparison with the inestimable benefits derived.

And now, ladies and gentlemen, a few words as to ourselves. We are now called the "Ontario Health Officers' Association"; in the near future it is probable we shall be known as "Hanna's Scouts." Our work under the leadership of our distinguished chief will be in the direction of looking for the innumerable evils which endanger public health, and our aim will be to do all in our power to overcome such evils. I sincerely hope, and certainly believe, that we shall be able to accomplish much good for this great Province, which we all love so dearly. In this connection it seems particularly fortunate that we have as our Chief Officer of Health in Ontario Dr. J. W. S. McCullough, one of the best sanitary experts and one of the ablest executive officers in North America.

SUBACUTE COMBINED DEGENERATION OF THE SPINAL CORD

BY JULIAN LOUDON, B.A., M.B., M.R.C.S.,

Assistant in Clinical Medicine, University of Toronto; Junior Assistant Physician, St. Michael's Hospital, Toronto.

Subacute combined degeneration of the cord is a disease which may be variable in its symptoms and course. Several syndromes which were formerly held to be definite clinical entities are now frequently found to develop into unmistakable examples of subacute combined degeneration. This is especially the case with the two syndromes which are now often provisionally diagnosed as ataxic paraplegia and primary lateral sclerosis. Ataxic paraplegia is also commonly employed simply as a term to suggest that the lateral and posterior columns are the seats of disease, while lateral sclerosis or spastic paraplegia indicates that the lateral tracts alone are involved. Therefore, while making use of the above terms in reference to any adult case with a short history and seen for the first time, it is usually taken for granted that either ataxic paraplegia or lateral sclerosis may merely be stages in the development of subacute combined degeneration,

disseminated sclerosis or certain other spinal and cerebrospinal diseases.

The cause of the cord disorganization which is found in sub-acute combined degeneration is unknown. The most that may be said is that it is probably due to a toxic influence. In the majority of instances the disease precedes or accompanies certain other maladies, such as pernicious anæmia, ergotism, and pellagra. A more chronic form of the disease may be due to sclerosis of the spinal arteries (senile paraplegia). The prevalent opinion is that the cord destruction and the more general malady which may accompany it are the result of a single pathological process and do not stand in relation of effect and cause. The area of the cord degeneration seems to be determined somewhat by the area of distribution of the posterior spinal arteries. The posterior columns, the crossed pyramidal tracts and the direct cerebellar tracts are the parts especially involved. The change begins in the mid-dorsal region and advances upwards and downwards. The advancement takes place by the joining together of separate small foci of degeneration and is in this quite unlike a system disease. When the disease is well advanced it begins to invade anteriorly, and finally the cord may be completely disorganized. It is said that the nerve roots may also become involved, but that the peripheral nerves outside the vertebral column always escape. Microscopically, changes can be seen to have taken place in the neurons, but the degeneration in the nerve processes is out of all proportion to that in the cell body. The disease occurs in middle-aged people. Both sexes are about equally affected.

Typical cases follow a fairly definite course, which can be divided into three stages. In the first stage there are the signs and symptoms of ataxic paraplegia, such as weakness, slight rigidity, increased deep reflexes, ataxia, disturbance of the sense of passive position, and paræsthesia in the lower limbs. The extensor type of plantar reflex is present and persists to the end of the course. In the second stage the objective sensations are disturbed chiefly in the lower extremities, and this change in sensations gradually extends upwards to the trunk. The spasticity increases and the extensor response of the great toe becomes more definite. Flaccidity replaces the spasticity in the third stage, when the cord is becoming completely disorganized. The deep reflexes are lost, the muscles waste, and the patient loses control over the rectal and vesical sphincters. The extensor plantar response remains to the end in spite of the muscular

hypotomus. The average time for death to take place is about one year after the onset of symptoms.

The diagnosis may be easy or difficult, usually depending upon the stage at which the disease is seen. The cases likely to be confused with subacute combined degeneration are disseminated sclerosis, hysteria, compression paraplegia, cerebrospinal syphilis, tabes dorsalis, and peripheral multiple neuritis. In the case quoted below the diagnosis was between subacute combined degeneration and arsenical neuritis. The conclusion arrived at was based upon a study of the objective sensory changes. In order to appreciate these sensory changes it will be necessary to refer to the brilliant researches of Head, Thompson, and others. According to Head, the sensory impulses in the peripheral nerves are physiologically arranged in three great groups or systems, which he names *epieritic*, *protopathic*, and *deep*.

1. *Epieritic* sensibility includes light touch, tactile discrimination of compass points, tactile localization, and intermediate degrees of temperature.

2. In the *protopathic* system painful cutaneous impressions and the extremes of heat and cold are appreciated.

3. In the system for deep sensibility, the position and movement of the limbs in space, deep pressure, and pain on deep pressure are appreciated.

The *epieritic* and *protopathic* fibres run with the sensory nerves from the skin. The deep fibres run with the motor nerves to the muscles, tendons, and joints, and consequently deep sensibility may remain intact when all the cutaneous nerves are destroyed. From what has been said, it will be observed that the condition of the deep sensibility cannot be investigated thoroughly while the superficial sensations are performing their normal functions. It should also be observed that in any peripheral nerve lesion no one of the sensations mentioned above can be lost or changed unless the whole system to which it belongs is lost or changed to the same degree and extent. In the posterior nerve roots all the sensations are grouped together, and a lesion in this situation would affect all sensations equally, or possibly the *protopathic* system as a whole slightly more than the *epieritic* system.

In the spinal cord the sensations are arranged quite differently from the grouping in the peripheral nerves. When light touch enters the cord by the posterior roots some of the fibres pass up in the posterior column of the side of entrance, while others cross in the anterior commissure and pass up in the

spinothalamic tract of the opposite side. Tactile discrimination passes up in the posterior column of the side of entrance. Tactile localization takes the same paths as light touch. Intermediate degrees of temperature cross in the anterior commissure and pass up in the spinothalamic tract. Pain, heat and cold take the same course as the fibres for the intermediate degrees of temperature. The sense of passive position and movement passes up in the posterior column of the same side. Painful pressure takes the same course as the fibres for cutaneous pain, and deep pressure the same as for light touch. It will be evident that when the spinal cord is diseased but not completely destroyed the sensations will not likely be lost according to the peripheral grouping of epicritic, protopathic and deep sensibilities. In other words, there will be dissociated loss of sensations.

We are now in a position to discuss the following case which came under the author's notice a few months ago:

J. C., a farmer, age 53, single, was admitted to St. Michael's Hospital under the care of Dr. H. B. Anderson on October 25, 1912. On admission the patient complained of insomnia, weakness, swelling of the scrotum, bladder trouble, cramps, and inco-ordination of the limbs.

HISTORY OF PRESENT ILLNESS.

The patient dates the commencement of his malady back to four years ago, when he suffered from an attack of anæmia, which was said to be pernicious in type. Three years ago he complained of shortness of breath, swelling of the feet during the day, and a swelling of the scrotum, which was tapped on several occasions. One year ago he first noticed numbness in one of his fingers, a girdle sensation of heat and tightness, and involuntary movements of his legs. These symptoms gradually passed away, leaving nothing but weakness and pallor. Two months before admission to the hospital, tingling began in the feet, the girdle sensations of heat and tightness returned, and cramps commenced in the limbs. At the same time he lost partial control over micturition. Sometimes he had difficulty in passing urine and other times in holding it. He also noticed that he would fall when in the dark or when the eyes were closed. A couple of weeks before admission the patient was obliged to take to his bed on account of his marked lassitude and weakness. Sleeplessness was very troublesome at this time. On careful inquiry it was ascertained that the patient had been

taking "pink pills" and arsenical mixtures on and off since his illness began four years ago. No definite estimate of the quantity of arsenic consumed can be obtained, but Dr. Speirs, who attended the patient for a short time before admission, is of the opinion that the amount was inconsiderable. On December 20 incontinence of fæces was present, and continued at irregular intervals.

HISTORY OF PREVIOUS HEALTH AND HABITS.

He has never been ill before except for an attack of dysentery twenty-five years ago. Since having the dysentery he has been troubled with flatulence. He has been thirty years on a farm, and has never been out of Canada. He has never taken alcohol regularly and denies venereal diseases.

FAMILY HISTORY.

His father died at 81 of "old age." His mother is living at 72, but suffers from jaundice. He has one brother living and well at 56.

GENERAL CONDITION.

The patient is confined to bed and lies low down on his back. His expression is intelligent. There is general wasting of the body, but the wasting in the legs is especially marked. The skin is dry, loose, and pale lemon yellow in color. The soles of the feet are scaly. There are many small scars over the surface of the arms and legs. A hydrocoele of the tunica vaginalis is present on either side of the scrotum. The palpebral conjunctiva is quite pale. The superficial lymphatic glands are not palpable. There is no cyanosis and no clubbing of the fingers or toes. The teeth and gums are in fairly good condition, but the tongue is red, glazed, and fissured. On admission the temperature was 98.4, the pulse 96, and the respirations 20.

EXAMINATION OF THE BLOOD.

The blood was examined many times by Dr. R. W. Mann and Dr. N. C. Sharp. The following is an average report while the patient was in the hospital. The white blood cells were 5,000. The red blood cells were 2,000,000, and the hæmoglobin was 35 per cent. The color index was about normal. There were megalocytes, poikilocytes, normoblasts, megaloblasts, and crenated red cells. The general opinion of those who examined the blood was

that the anæmia was pernicious in type. A Wassermann reaction was also performed by Dr. Gordon Bates on several occasions, but always with a negative result.

EXAMINATION OF THE URINE.

The urine was clear, amber in color, and acid in reaction. There was no precipitate, and the specific gravity was 1.019. Albumen and sugar were both absent.

EXAMINATION OF THE NERVOUS SYSTEM.

The following notes were made in the latter half of December, 1912: There is no change in higher cerebral and mental

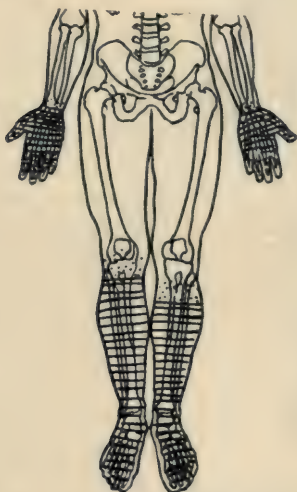


Fig. 1. Showing loss of two epicritic sensations—light touch and tactile localisation—over the hands and legs. The anaesthesia is of the glove and stocking variety.

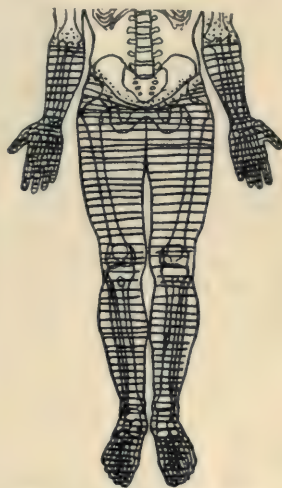


Fig. 2. Showing loss of one epicritic sensation—tactile discrimination—over the lower extremities, forearms, and hands. The anaesthesia of the lower extremities is tending to become segmental.

functions. Speech is normal. There have been no convulsions or abnormal movements with the exception of the spasms or cramps which come in the muscles of the arms and legs from time to time. No cranial nerve disease of any kind can be detected. The pupils react to light and accommodate for distance. The retina is natural. There is no squint or nystagmus. Turning to the motor functions of the limbs, we find the lower limbs to be somewhat more affected than the upper. Foot-drop and

wrist-drop are absent, and there is no definite paralysis. The grips are fairly strong, and the tone in the muscles of the arm and forearm is fairly good. In the lower limbs the power is not so good, and there is hypotonus and wasting in all the muscles. The inco-ordination on moving the arms and legs is considerable. Tremors are absent. All the deep and superficial reflexes which are usually investigated are absent. These include the jaw-jerk, the deep reflexes of the upper limbs, the knee-jerk, ankle-jerk, ankle clonus, plantar reflex, abdominal reflex, and cremasteric reflex. The electrical reactions of the muscles were not investigated. Deep pressure on the calves elicits only a moderate amount of pain. The sensory changes are the feature of the



Fig. 3. Showing loss of the three protopathic sensations—pain, heat, and cold. Heat seems to be more completely lost than pain and cold. The lines represent the areas of complete loss, while the dots represent dulling of the sensations.

case. The subjective sensations are noted in the history of the present illness and will not be recapitulated here. The objective sensations are changed as follows: Light touch and tactile localization are affected over the hands and legs (Fig. 1). Tactile discrimination of two compass points at certain distances is lost over the forearms and lower extremities (Fig. 2). Pain, heat, and cold are affected over the hands and feet, the heat loss being somewhat more extensive than the loss to cold and pain (Fig. 3).

The sense of passive position and movement is markedly affected. The patient does not appreciate movements of the lower limbs, and in the upper limbs can only recognize movements made at the shoulder joints. With his eyes closed he has no appreciation of the position in space of his lower limbs or of his forearms and hands. The pressure sense is also affected in the limbs, but this cannot be fairly tested where any tactile sensibility remains.

From a study of the first and second diagrams we see that there is an unequal or dissociated loss in the epicritic sensibilities. From this fact alone it follows that we must be concerned with a cord lesion. The tactile discrimination and deep sense of passive position are affected more than light touch and tactile localization. This is probably because the two latter sensations ascend in the opposite spinothalamic tract as well as in the posterior column, and thus have more chance of escape. The spinothalamic tracts are not affected to the same extent as the posterior columns, as shown by the lesser loss of pain, heat, and cold. The inco-ordination in the arms and legs probably indicates disease in the direct cerebellar tracts. The bladder and rectal disturbance points to a cord rather than a peripheral nervous disease. Hypotonus and absence of deep reflexes may possibly be accounted for by an extension of disease from the white matter into the grey matter of the cord or into the nerve roots. In the absence of the extensor type of plantar reflex and with the loss of the knee-jerks, disease of the pyramidal tracts can only be inferred from their closeness to known areas of disease and from their well-known vulnerability.

Having decided that the disturbance of the nervous functions is due to cord derangement, we must try to come to a decision as to a more definite diagnosis. As stated above, the only conditions worth considering are subacute combined degeneration and cord degeneration due to chronic arsenical poisoning. While admitting that arsenic may cause cord degeneration, we must also keep in mind that peripheral nerve disease is the common result of chronic arsenical poisoning. It would, therefore, be highly improbable that we should have arsenical cord degeneration without some evidence of peripheral polyneuritis. The only points which really favor arsenical disease are the history of having taken arsenic over a long period, the presence of scaling of the soles of the feet, and the pain on deep pressure on the calves. The absence of the deep reflexes would favor neither condition, as they are likely to be absent in the

later stages of both. The absence of the extensor type of plantar response is unlike the usual descriptions of subacute combined degeneration, but its absence is of minor importance, as cord disease has been proved by other methods. In contrast to the points which favor arsenical disease, we have the well-marked anaemia, which is known to have been present four years ago, and which is the common accompaniment of subacute combined degeneration. We also have the cord type of anaesthesia and the absence of extensor paralysis, such as might be shown by wrist-drop and foot-drop. The age is in keeping with subacute combined degeneration, although obviously not against arsenical poisoning. Lastly we have Dr. Speirs' opinion that the character of the patient was such that he would never take a large amount of medicine at one time nor keep up drug treatment regularly. On the whole, subacute combined degeneration, accompanied by the usual anaemia, both being due to an unknown toxic agent, seems to be the most likely diagnosis. On January 5, 1913, the patient died quite suddenly. The scientific value of the case was greatly lessened by our inability to obtain the consent of the relatives for an autopsy.

Before concluding I wish to express my thanks to Dr. H. B. Anderson for his kindness in allowing me to study and report the above case.

83 St. George St., Toronto.

THE PHYSIOLOGY AND PATHOLOGY OF THE INTERNAL SECRETORY ORGANS*

BY JOHN FERGUSON, M.A., M.D.,
Senior Physician Toronto Western Hospital.

(Concluded from June Issue).

The Suprarenal Glands.—Eustachius discovered these glands in 1563. This discovery seems to have been lost sight of, as such anatomists as Vesalius, Fallopius and others do not mention them. In 1716, the Bordeaux Academy of Sciences offered a prize for the discovery of the functions of the suprarenals. The answer of the judge on that occasion was that chance may some day do what study has not been able to do. The chance was a long time in coming. Caillu, Winslow, and Kölliker did much to clear up the anatomy and histology of these glands. But the chance spoken of by Judge Montesquieu fell to the lot of Thomas Addison in 1855. To the work that had been done on the anatomy and histology of the bodies Addison added his splendid findings on their pathology and the clinical conditions present. From that day to the present time an endless amount of experimental work has been done and innumerable post-mortem investigations carried out.

Brown-Séquard removed these glands and found that the animals died in a few hours to two or three days. He was of the opinion that the removal of one of the suprarenals was fatal. This was an error. Subsequent experiment has shown that when an animal lives after what is thought to be removal of both glands, the removal has not been complete, and some function is still possible. The glands have been crushed with the object of inducing destructive inflammation, but these latter experiments have not borne much fruit. After much difference of opinion as the result of experimentation, Stilling, in 1890, proved that animals may live and enjoy health after the complete removal of one of these bodies, and he further showed that the remaining one undergoes compensatory hypertrophy. He also showed that after the removal of both glands in rabbits, any small portions that were left behind increased in size until they almost equalled the normal gland. He further showed that the small accessory bodies rapidly hypertrophied. In Addison's dis-

*Read at the Hamilton Medical Society, 6th March, 1913.

case there is also destruction of the structures that can replace suprarenal function. The experiments of Langlois, Strehl, Wiesel, Biedl and many others have shown that the suprarenals are essential to life. Several conclusions may now be laid down, namely: that the removal of one is negative in its effects; that the extirpation of both is fatal in a few hours or days; that the same results follow simultaneous removal or at an interval of time; that when the animals lived the removal of both glands had not been complete, and that partial destruction of both or the removal of one and the partial destruction of the other is well borne.

But further experiment has shown that it is the cortical substance that is essential to life. One suprarenal may be removed and the medullary portion of the other and the animal live. If one-eighth of the cortical substance persists death will not follow. The interrenal glands or accessories are also histologically of cortical tissue. It would seem, therefore, that it is the cortical substance that produces that which is essential to life. This is held by some to be true also of the interrenal tissue. It is when the entire adrenal system is destroyed by disease that the best of all experiments is performed. When the condition known as Addison's disease appears there is a chain of classical symptoms that is difficult to produce by experiment, as some of the suprarenal or interrenal gland tissue may remain. In order that this experimental work may have value it must be thorough and all the tissue containing cortical elements be removed. It is now known that the interrenal gland tissue contains the same elements as are found in the cortex of the suprarenal glands. If about one-eighth of the cortical substance is left the animal will live, and what is left of the cortical tissue will undergo hypertrophy.

Differential experiments have been performed by the removal of the cortical material separately and leaving the medullary behind, and the reverse. Death follows the complete extirpation of all the cortical tissue. It has been held by some that the shock of the operation caused some of the results. This has been overcome by removing the glands at two separate operations. By the first the glands are removed from the site, but the vessels left intact. They are then fastened beneath the skin. They may be removed in a few days afterwards without shock. Suprarenals are removed by two separate operations; the second one can be performed without an anæsthetic. In these cases about four days after the second operation the animals lose their appe-

tite, they become spiritless and apathetic, they cease to move around, muscular weakness increases, extreme prostration comes on, there is a flaccid paresis of the hind legs, the temperature is low, respiration becomes difficult and labored, the heart's action is irregular and weak, and the animals die lying flat on the abdomen. Just before death there may be muscular contractions or convulsions. In such animals there is marked change in metabolism. The elimination of phosphates is increased, and there is pronounced hypoglycæmia. In Addison's disease the sugar content of the blood is subnormal. In dogs from whom the suprarenals have been removed phlorizin gives rise to only slight glycosuria. In Addison's disease there is marked toleration of sugar, the exhibition of 2 mg. of adrenalin does not cause glycosuria, which would be the effect in a normal person. It is thus made clear the adrenalin-secreting tissue regulates the amount of sugar in the blood. It is further held that the internal secretion of adrenalin affects the mobilization of the sugar in the blood as well as the formation of glycogen. It has been shown that when the blood of one epinephrectomized animal is injected into another the condition of the former is made much worse, whereas if the blood of a healthy animal is used the condition is improved and life prolonged. Alcoholic extract of the muscles is also toxic. Another experiment of value is that the rise of blood pressure caused by the injection of suprarenal extract is at once lowered by the injection of blood from an animal whose glands have been removed. Suprarenalless animals are made to feel better by giving the adrenalin. It thus appears that when these glands are removed by experiment or destroyed by disease there accumulates toxic bodies in the system, mainly in the muscles, that destroy life. It is the function of the active secretion of these glands to neutralize these poisons.

It has been observed that when there is infantile hypoplasia of the suprarenals there is perversion or arrest in brain development, such as anencephaly or hemicephaly. In later life the glands may be destroyed by hæmorrhage or suppuration. In such cases there are severe nervous symptoms, and the condition resembles that of an epinephrectomized animal. Primary chronic disease of the suprarenals, such as atrophy, cirrhosis and hypoplasia, is very rare; but disease secondary to tuberculosis, tumors or syphilis is much more common. Bittorfe found the records of 47 cases of primary disease of the chronic inflammatory atrophic type. In some the cortex, in some the medulla, and in others both portions of the suprarenals were affected. In all

of these and in his own five cases there were present the classic symptoms of Addison's disease. Others have confirmed these observations, notably Lewin. The work that has been done both by experiment and the study of diseased adrenals, makes it clear that in these glands is the etiology of Addison's disease; but the anatomical, physiological and pathological findings do not enable us to definitely state the function of each portion of the adrenal system, nor can we state what particular portion of the system is responsible for Addison's disease.

With regard to the action of suprarenal extract, several deductions may be made from past experiences. There are cases of Addison's disease where it does harm, others where it is negative; some with improvement, and others reported as cured. It does not appear that the epinephrectomized animals can be kept alive by its use. It should be noted that, while the extract has little effect on the blood pressure of a healthy person, it does raise it in cases of suprarenal disease. When the suprarenals are entirely destroyed by disease the extract does harm; but it does good if there still remains any portion of the gland capable of functioning by stimulating its growth and hypertrophy, and this action seems to be in the extract coming from the cortex. Much work has been done on transplantation. It has now been shown that the gland may be embedded into other tissues and retain its activity, as shown by the removal of the other suprarenal. That this method of treatment may yet be of use in man the future alone can tell.

The influence of adrenalin on blood pressure has been the subject of much debate. It is now recognized as the most powerful agent we possess for the purpose of raising blood pressure. The method of its action is still somewhat unsettled, but there are some points that assist one in arriving at a conclusion. One of these is that it acts during profound anaesthesia, in chloral poisoning, and when the cord is divided high up. It acts upon heart muscle and the muscle fibres of the arteries, and, as taught by some, on these through the sympathetic nerves. The action, however, is more vigorous when the entire nervous system is intact. It does seem, from a long series of observations in the hands of competent persons, that adrenalin has a special and elective affinity for the sympathetic or vegetative nervous system. But into this wide field I cannot now enter.

The influence of the suprarenal glands upon at least two other important glands is of the utmost moment. Adrenalin does exercise an inhibitory control over the internal secretory activity of

the pancreas, and in turn the secretion of the pancreas limits the action of adrenalin. This has already been referred to. With regard to the thyroid gland, it should be remembered that adrenalin fails to raise the blood pressure or to cause glycosuria when the thyroid has been removed. On the other hand, the removal of the parathyroid increases the adrenalin glycosuria. It thus appears that the thyroid increases the action of adrenalin, while the parathyroid inhibits it; and, in turn, the adrenalin promotes the activity of the thyroid and inhibits the parathyroids. The chromaffine of the adrenal system is of the same origin as the sympathetic ganglia. Adrenalin is a hormone which acts upon elements and increases their katabolic activity. This activity is confined to organs with a sympathetic nerve supply, and corresponds to electrical stimulation of the sympathetic nerves of these organs. The action takes place at the point of junction of the sympathetic nerve and the muscle element. The presence of adrenalin in due amount in the system is necessary for the proper action of the entire sympathetic nervous system, and it is in this manner that the proper tone of the cardio-vascular system is maintained.

The Hypophysis Cerebri.—This body has been long known to exist. Galen and Vesalius thought that the mucus formed in the brain was secreted by it. The gland consists of two portions. The anterior is kidney shaped, firm, of a reddish color, and is epithelial in character. The posterior portion is smaller, whitish in color, soft and represents the nervous element, or neuro-hypophysis.

This body has been made the object of much experimental research. In this connection we find the names of Horsley, Gley, Marinesco, and a long list of others standing out prominently. The more recent work of Cushing is the best. Total extirpation is soon followed by emaciation and death.

When Oliver and Schäfer made known the effect of pituitary extract on the circulation a new impetus to the study of the body was given. Its effect in producing prompt and marked increase in blood pressure at once opened a field for experiment. This hypertension results in part from contraction of the vessels and partly from increased cardiac activity, and it is not decreased by section of the cord or medulla. This peripheral effect can be seen by causing the extract to pass through the vessels of an extremity without going through the entire circulation. The vaso-constrictor action is not so marked as that caused by adrenalin, and the inhibition of the auricular contraction caused by

the suprarenal extract when the vagi are intact is absent in the case of the pituitary extract. When the vagi are divided pituitary extract retards the cardiac beats. It has been found by Howell that it is the posterior lobe, or the pars nervosa that yields the active principle that causes vaso-constriction and slowing of the pulse. By an alcohol, ether, chloride of sodium method, an extract is obtained that lowers blood pressure by a transient peripheral vasodilatation. The intravenous injection of pituitary extract gives two distinct diureses, which will be maintained for a considerable time after a second injection. It has been found by Schiff and Moraczewski that administration of the extract lessens the elimination of calcium, magnesium and phosphorus in such diseases as acromegaly and paralysis agitans. The exhibition of the extract by the mouth in normal persons gives rise to the eliminations of gases, a result which is scarcely perceptible in acromegaly. Falta has carefully studied the effect of pituitrin from the nervous portion and finds it increases albumin metabolism in healthy animals. There is also an increase in the excretion of uric acid, but no change is observed in the sugar content of the blood. If adrenalin be given to animals that have been treated with pituitrin there is a remarkable increase in the excretion of sugar.

The partial extirpation of the anterior portion is consistent with life, but its complete removal is not. On the contrary, the posterior portion may be removed and no pathological changes follow. When the anterior lobe is partially removed some very remarkable changes ensue. Cushing has observed the deposition of fat, transitory glycosuria, polyuria, and falling of the hair. There is a marked reduction in sexual activity, as shown by atrophy of the ovaries and testicles. The thyroid may become much enlarged. It is clear this work of Cushing has proven that the anterior part of the gland contains the vital centre. The suppression of the function of the pituitary in young animals is followed by a very backward condition of growth, the genitals are small, there is fatty degeneration in many organs, there is a radical change in disposition; dogs do not bark, and movements are sluggish. The intelligence is also low. The removal of the peduncle is as fatal as that of the entire gland.

Marie took a great step onward when he gave to the world his views on acromegaly. The changes found in the pituitary body were described by Marie and Marinesco. They found increased size of the body, and a proliferation of the connective tissue followed by sclerosis. This enlargement is a true hypo-

physcal tumor, as teratoma, adenosarcoma and such like. It can no longer be considered that this enlargement is a mere coincidence. It must now be regarded as an etiological factor. There are a few cases with but slight enlargement, but activity of function and size of the gland do not always go together. This is well seen in some cases of Graves' disease with marked symptoms, though the thyroid may not be much larger than normal. There seems to be two stages in acromegaly. The first marked by hypersecretion and the second by atrophy of the gland. Biedl holds that in all cases of acromegaly there is a true hypertrophy of the gland. After several attempts to cure the disease by the removal of part of the gland, Hochenegg, in 1908, was completely successful. In 1909 Cushing performed partial hypophysectomy, and with considerable benefit to the patient. This furnished the last link required in the proof that hypertrophy and over-function are causes of acromegaly. The question has been raised why the disease does subside when the tumor has apparently destroyed the gland? The answer is twofold. The secretion quality of the gland may not be entirely destroyed; and, secondly, the pituitary cells in the growth may be even more active than those in the normal gland. But the progress of acromegaly does sometimes come to a stand, and no doubt because the hypersecretion has ceased.

There is a close relationship between the hypophysis and other internal secretory organs, as the thyroid, the thymus, the suprarenals and the genital organs. The removal of the thyroid leads to hypertrophy of the hypophysis, and in myxedema there is found a similar condition. In the animals from whom Caselli removed the pituitary body there was enlargement of the thyroid, and in the two patients on whom Hochenegg operated for acromegaly this hypertrophy followed. There is a relationship between Graves' disease and acromegaly in the fact that both depend upon over-activity of their own respective gland. We do not know enough about the influence of the thymus and suprarenals to lay down working rules, as the findings so far have not been constant, and are at times contradictory. In acromegaly, the sexual functions soon become impaired, and the menses cease and impotency appears, with atrophy. The hypophysis enlarges during pregnancy, and this is due in pregnancy to the inactivity of the ovaries. After castration the pituitary undergoes some enlargement, usually to twice the normal. In castrated animals there is enlargement of the pituitary, a fact that has been well worked out by Fiehera. Jutaka-Kon's investiga-

tions have clearly proven that hypertrophy of the hypophysis accompanies hypoplasia of the genital organs.

The subject of acromegaly has attracted much attention since the first statement made regarding it by Pierre Marie. It may be now accepted that there is an over-active state of the hypophysis in this condition, as there is of the thyroid in Graves' disease. But just in what way this hyperfunction is caused still remains a matter of much conjecture. In some instances it may be due to a primary affection of the pituitary, as adenoma of the gland is common. In other instances there may be primarily some defect in the function of the sexual glands. When the pituitary becomes hypertrophied, as in acromegaly, there is defect in the function of the sexual organs. There is some evidence in support of the opinion that some cases of acromegaly may be caused by perversion of important functions of the sexual organs. Indeed, acromegaly may be dependent in some instances to deranged function in several glands.

The subject of gigantism has received a great deal of attention. That it is a morbid process is now admitted. There is, in addition to the excessive growth of the body, a marked derangement of function in many particulars. Along with this perversion of function there are frequently anatomical malformations. Giants are pathological individuals. Gigantism usually makes its appearance about the age of puberty. The principal growth is in the extremities, while the body is not much larger than normal, and the head is mostly smaller. The changes in the bones of the face and head and hands and feet correspond to those found in acromegaly. In most cases the thyroid gland is found to be enlarged. This is not always so, but activity may make up for any apparent non-enlargement. It may be laid down that there is enlargement of the hypophysis, and this may be due to hyperplasia, vascular tumor, sarcoma, or adenoma. Along with these perversions there are present also marked defects in the sexual organs. Absence of menstruation, impotency in the male, and sterility in both sexes. In the sexual organs there is a distinct hypoplasia in contrast to the hyperplasia in other parts of the body. This defect in growth extends to the uterus and vagina, and the penis and prostate. These individuals are apathetic, lacking in tone, indolent, of low intelligence, poor growth of hair, increase in fat, often the victims of glycosuria, they have poor resistance in the event of sickness or accident. These are the stigmata of infantilism. It has been well said that gigantism is the acromegaly of youth, while acro-

megaly is the gigantism of the adult. Gigantism may continue on into true acromegaly. If these giants live they invariably show signs of acromegaly. It is really a question of living until the epiphyses ossify.

There is now no longer any doubt as to the part played by the pituitary body. Along with this there is defect in the genital organs. The thyroid is overly active and, in most cases, enlarged. In the acromegalic form of gigantism hyperpituitarism is the real cause, while in the infantile type, the trouble is primarily in radical defects in the genital organs. Along with this condition of the genitalia there is a marked tendency to obesity, which may become enormous. There is with these signs, that of cerebral tumor, which may be considered as hypophyseal. It must be stated, however, that there are instances of adiposogenitalis due to pituitary disturbance, as the genitals appear normal. The removal of the pituitary gland and its impairment by tumor formation give rise to this state of obesity; and the removal of the tumor has markedly improved a few cases. Hypopituitarism must, therefore, be regarded as the true cause of adiposogenitalis. The administration of pituitary extract is helpful in this condition, and harmful in acromegaly where there is hyperpituitarism. From the stand of the pituitary infantilism and acromegaly are opposite states.

The pituitary gland consists of two portions. The anterior has very definite secretory functions. The removal of this is fatal to the animal, while its disease is accompanied by well-marked symptoms. The posterior portion may be destroyed without inducing any derangements. An extract from the anterior portion possesses no properties, while an extract from the posterior portion produces unique effects. This is contrary to what would have been anticipated from experiments on these two portions of the gland. The extract from the posterior lobe has a vasoconstrictor action and a stimulatory influence over the cardiac, uterine and intestinal muscle tissue, entirely absent from an extract obtained from the anterior lobe.

What takes place during life and the action of the extracts must not be considered as the same thing. While the anterior portion of the gland does not yield an extract with active properties, there are good reasons for believing that it produces an internal secretion that acts upon other organs, and that they are correlated in function by it. When there is suppression of the function of the thyroid body and the sexual organs there is an increase in the size of the anterior lobe of the pituitary. On the

other hand, morbid changes in the hypophysis are accompanied by changes in the sexual organs, the thyroid gland, and, perhaps, in other secretory structures. In hyperfunction of the pituitary there is an increase of the cortical portion of the suprarenals, and a reduction in size and function of the thyroid. Excessive action of the pituitary gives rise to acromegaly and gigantism, which are accompanied by defective action of the sexual glands. Defective function of the genitals is followed by lower action of the hypophysis. During pregnancy, when the ovaries are not active, there is increased activity of the pituitary. Removal of the anterior lobe in young animals is followed by an arrest of development and an inordinate deposit of fat throughout the body.

The Genital Glands.—This is one of the most complicated problems in human physiology. It is known that the generative organs have a far-reaching effect on the entire body; but how this is brought about is not easily determined, as there are a number of glandular structures in connection with them, such as the ovary, the testicle, the mamma, and the prostate. Then another phase of the question comes up for consideration. It would seem that a certain stamp is imposed upon the tissues of each sex during the period of foetal development. This is borne out by the fact that, if a male and female of the same species have the genital organs extirpated just after birth, later on in life certain sex characteristics will appear, such as the male growing beard and the female developing mammary glands. But during foetal and after foetal life, the sexual organs have a remarkable influence over the whole body. During foetal life they give to the tissues of the body certain tendencies that castration does not wholly remove; and after birth the growth of the body is modified very materially by the activities of these organs. This is seen in animals and man in the rutting season, the sexually active period of life, and at puberty. It is also made abundantly clear when these organs are defective or absent. In the human subject certain characteristics are common, such as growth of skeleton and hair on the pubes, while in the male there is growth of beard and hair over the body and a change of voice, and in the female there is the development of the mammae, the change in the shape of the pelvis, and the deposit of fat differently to that found in the male. There is also change in the nervous system of a far-reaching nature. The spinal cord acquires new reflexes and the psychic functions are profoundly altered.

The condition of sexual precocity has been observed by a number. But this state of early puberty may not be caused by unduly early development of the generative glands and their secretions, but rather may be a secondary result of a primary disease in some other organ. It has been noted that the *pubertas præcox* is common in cases of tumor of the pineal gland and of the suprarenal bodies. On the other hand, hypophyseal disease is frequently accompanied by genital atrophy. When due allowance is made for such morbid states in other glands, there still remain a group that can only be explained on the ground of hypergenitalism. In some instances of disease of the testicles in the very young have been noticed marked physical growth, obesity, sexual precocity, change in voice and characteristics. In one instance the removal of a hypertrophied testicle reversed the conditions more nearly to the normal. When the testicles are imperfectly developed or atrophied there is an hypertrophy of the *mammæ*, with extensive deposits of fat in various parts of the body. It has also been shown that the imperfect development or removal of the ovaries in young animals prevents the growth of the *mammæ*; and that implantation of ovary tissues starts their development. During pregnancy there is enlargement of the *mammæ*. This is not due to the ovaries, as the *mammæ* enlarge when the ovaries have been removed. In like manner the enlargement is not due to enlargement of the uterus, for the *mammæ* increase in size in ectopic gestation. It has been shown that during pregnancy the ovaries are comparatively inactive, while their place is taken by some active hormone eliminated from the placenta. Thus the ovary and the placenta stimulate development of the *mammæ*. But it has also been shown that these glands are markedly stimulated by the injection of extracts obtained from fresh fetuses. After the uterus is emptied the ovaries become again active and the secretion of milk continues.

Removal of the testes in the young prevents the development of the seminal vesicles and the prostate, and causes atrophy of the latter in the adult. The testicles produce an internal secretion and an external secretion. After mid-life there is a reduction in the latter and, probably, an increase in the former, and this explains the prostate hypertrophy with advancing age, and its frequent cure by castration. This operation in the young does not give rise to female characteristics in the male, but to an infantile type in the adult. The voice, the pelvis, and the mental traits are those of the child. In animals that have been cas-

trated while young the induced characteristics are considerably reversed again towards the normal by implantation of portions of testicular substance.

In females the removal of the ovaries prior to the development of the sexual organs is followed by arrest in the growth of the uterus, tubes and vagina; and the removal of the ovaries after puberty, by the atrophy of these organs. Implantation of ovarian tissue will greatly influence these changes by causing development on the one hand or arresting atrophy on the other. The injection of ovarian extract does not have this influence. Female baboons menstruate, and the removal of the ovaries arrests this function. Their implantation under the skin of the abdomen brings on menstruation again, and the removal of the implanted ovaries arrests the function a second time. In women menstruation has been maintained by transplantation of the ovary. It will thus be seen that the genital gland produces an internal secretion that is required for the development and functional activity of the genital organs.

But while the genital glands have thus a marked influence over the development of the genital organs, and the differentiating characteristics of the two sexes, these glands also secrete hormones that influence body development quite other than those connected with sex distinctions. The normal activity of the genital glands have a special influence on the growth of the skeleton. Castration while young increases the growth in length of the long bones, and a similar result follows subdevelopment of these glands. These cases are not the same as infantilism, where the trunk is long and the extremities short. True hypogenitalism gives rise to infantile gigantism, marked out by long bones, imperfect secondary characters, and low mental capacity. In young women who become pregnant, and thereby the function of the ovaries is at a stand, increase in height due to lengthening of the bones is common. Late sexual maturity favors the growth of the long bones, whereas early sexual maturity brings about closing of the epiphyses and arrests growth in height. The inhabitants of hot countries and women usually develop early and are for this reason usually shorter in the legs compared with their trunks. It has been shown that the injection of ovarian and testicular extracts inhibit the growth of bone by favoring of ossification of the epiphyses. It is thus clear that the genital glands form a substance that stimulates ossification. Early development of these glands causes arrest in growth of the long bones, while sub-development or late development has the opposite effect.

Removal of the ovaries and testicles in young animals has the effect of reducing the size and activity of the thyroid body, of causing the pituitary to hypertrophy and functionate actively, and to give rise to persistency of the thymus. These glands have much influence over the growth of the body, and, therefore, hypoplasia or hyperplasia of the genital glands may exert much of their influences through these other bodies. It has been shown that the enlargement of the hypophysis that follows castration may be reduced or removed by the injection of testicular extract. As the activity of the sexual glands decreases with age, senile changes come on, and these are fairly well imitated in the young adult as the effect of castration. In the castrated and the aged the thyroid is small. Castration causes obesity, so does the arrest of ovarian activity during pregnancy and after the menopause. The cause of this increase in fat has been found to be due to lowered metabolism from imperfect oxidation, and that the exhibition of the preparation of the ovary benefits both sexes. The removal of the testicles or ovaries does not influence the metabolism of albumin substances.

From the prostate a very toxic extract is obtained that raises blood pressure, then lowers it and arrests the heart's action. So far as the uterus is concerned, no active principle has been obtained. It is contended by some that the placenta yields an active body that is capable of causing convulsions, but this is not as yet fully established.

The Pancreas.—It was shown in 1889 that the removal of the pancreas caused sugar to appear in the urine, and the usual classical symptoms of diabetes. This has been confirmed by many experiments. If about one-fifth of the gland is left glycosuria will not occur. If this portion becomes destroyed by inflammatory processes, then the diabetic condition comes on. It was further shown that section of the nerves, tying the vessels, or closing the pancreatic duct did not cause glycosuria. It thus became quite clear that the pancreas produced an active internal secretion that regulated metabolism and controlled the presence of sugar in the blood. The removal of the pancreas gives rise to glycosuria, hyperglycæmia, lessening of liver glycogen, formation of acetone, acidosis, emaciation, coma. In proportion to the extent of pancreatic tissue removed will be the degree of glycosuria. If of mild type, the removal of carbohydrates from the food removes the dextrose from the urine; but if the diabetes be of the severe type from complete removal of the pancreas, this care in diet will not cause the glycosuria to disappear.

In an animal from whom the pancreas has been removed the glycosuria may be greatly intensified by the extirpation of the thyroid, and also by the injection of adrenalin. When the entire pancreas has been removed the urine contains grape sugar on a diet of albumins and fats. When the sugar content of the blood is not greater than .1 per cent. it does not pass through the kidney; when it rises above this the kidney permits its escape. Soon after removal of the pancreas the glycogen in the liver is reduced until only a trace is found. Similarly there is a reduction of the glycogen found in the muscles. After the withdrawal of carbohydrates and the elimination of the stored glycogen there continues to be dextrose in the urine.

Many views have been set forth as to how the internal secretion of the pancreas acted. It is now, however, generally accepted that the pancreas produces a hormone that restrains the formation of sugar in the liver. When this action of the pancreas is lost by disease or removal, the glycogen in the liver and muscles is set free, or is converted into glucose, and hyperglycæmia and glycosuria result. There are cases of glycosuria in which the pancreas is found to be normal. These are the instances known as the neurogenous, hepatogenous and lipogenous types. This hormone acts through the nervous system; for division of the splanchnic nerves gives rise to diabetes similarly to what occurs on section of the pancreas. What particular portion of the pancreas produces the internal secretion has been the subject of much discussion, but the overwhelming weight of opinion is that this is a function of the islands of Langerhans.

REFERENCES.

In the preparation of this paper I have made extensive use of the works of Pembrey and Ritchie, Arthur Biedl, E. L. Opie, Harvey Cushing, P. J. Cammidge, Swale Vincent, Blair Bell, Von Noorden, J. J. R. Macleod, and many others, and my own notes of many cases.

THE INTERNATIONAL MEDICAL CONGRESS ABSTRACT OF PAPERS

SECTION I.—ANATOMY AND EMBRYOLOGY.

Cerebral Localization and the Precise Significance of Sulci.
Abstract of Report by DR. C. U. ARIENS-KAPPERS, *Amsterdam.*

To judge the significance of Sulci in regard to intrinsic localization, it is necessary to study Sulci and intrinsic localizations separately.

A considerable parallelism exists between the evolutionary features of fissuration and the evolutionary features of intrinsic localisations in the cortex, so that morphological studies keep a great value also from the viewpoint of intrinsic localizations.

More and less principal deviations from this parallelism occur, so that a study on fissuration shall always want a control by a study of intrinsic localizations.

These deviations can often be explained by a greater conservatism of Sulci.

The homology or non-homology of Sulci may not be made dependent on the homology or non-homology of adjoining intrinsic areas.

SECTIONS II. AND IIIA.—PHYSIOLOGY AND CHEMICAL PATHOLOGY. JOINT DISCUSSION.

Decomposition of Proteins in Cells. Résumé of Report by PROFESSOR DR. EMIL ABDERHALDEN, *Halle, a/S.*

A sort of decomposition of the proteids in cellular metabolism has now been to a great extent explained. It represents a hydrolysis of the proteins. From it originates peptones, polypeptids and amino-acids. Further decomposition commences on the appearance of the latter. In the first place, carbonic acid is separated. Then amin is formed. Or, in the first place, the amino group is removed, after which further transformations follow. The non-nitrogenous carbon chains may form manifold syntheses. The formation of carbohydrates from amino-acids is doubtless due to these remnants of carbon. The amino-acids themselves may supply the material for the bases, which are employed as a foundation for the phosphids. On all sides we are confronted by a process of gradual decomposition.

SECTION III.—GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY.

The Influence of the Radio-active Bodies and the Rays on Normal and Pathological Tissues. Abstract of the Report of
PROFESSOR DR. O. HERTWIG.

Radium and mesothorium rays produce in the first place changes in the nuclear substances of the cells of animals and plants. The spermatozoon and ovum, in spite of their very dissimilar protoplasmic contents, are influenced to approximately the same extent by rays of equal intensity. This is shown by the disturbance in the development of the impregnated ovum after treatment before impregnation of one of the two germ cells. Intensive irradiation of the spermatozoon results in parthenogenetic development of the ovum impregnated by it. The former hypothesis that lecithin is decomposed in the cells can therefore no longer be maintained. Embryonal cells and indifferent cells in course of development are more intensely fixed by radio-active rays than completely developed tissues, owing to the fact that nuclear substance predominates in proportion to plasma products.

SECTION V.—THERAPEUTICS.

The Defences of the Animal Organism Against Foreign Materials Entering the Blood Channels. Abstract of the Report of
PROFESSOR DR. EMIL ABDERHALDEN, HALLE, A. S.

The animal organism possesses a powerful defence against all kinds of foreign materials. This is digestion. It destroys every specific structure in the nutrient material offered to it. In addition that which is resorbed passes to the cells of the liver, which again control everything. Similar material thus always passes into the circulation, and the cells invariably receive similar nutrient material.

This harmony is disturbed if the body cells themselves, or foreign cells, such as micro-organisms, or cancer cells pass into the blood still retaining the characteristics of the kind of cell from which they originate. In this case also there is an important safeguard, namely, the lymphatic channels with all their ramifications. If in spite of all the protective forces material reaches the blood which is foreign to it, and which still retains its original characters, various protective measures come into play. On the one hand the excretory organs endeavour to remove the material. In addition ferments are given off by the blood plasma, which have the property of decomposing complex materials, and

thus depriving them of their original characteristics. The appearance of certain ferments indicates the presence of various substances in the blood, and thus investigation of the blood by ferments which are developed upon certain substrata gives us an idea of the function of the individual organs. The products of gradual decomposition, due to the ferments, may have a toxic influence.

UNDER-SECTION VIIA.—ORTHOPAEDIC.

The Treatment of Tuberculous Bones and Joints. Abstract of the Report of JULIUS DOLLINGER.

Joints which come under treatment in a contracted position should immediately be redressed for the time being in a plaster of Paris dressing. The most important adjunct to the local treatment is complete fixation by means of removable bandages or apparatus. The reclining position is of service in regard to the vertebral column, and freedom from weight in regard to the lower extremities. Here follow illustrations.

In dealing with the general treatment Dollinger emphasized the value of sunlight, the present employment of which was described in detail. This and the X-ray treatment have contributed to further limit the domain of operative surgery in this connection.

SECTION VII B.—ANAESTHESIA.

A Comparison of the Immediate and After Effects of Spinal and Local Analgesia with those of Inhalational Anaesthesia, in Respect to Shock and Psychic Shock. Abstract of Report by YANDELL HENDERSON, PH.D., Professor of Physiology in the Yale Medical School, New Haven, Conn., U.S.A.

Shock may be the result of mental states, e.g., fear or anxiety, in much the same manner as it is of physical pain, although in less degree. In using local and spinal analgesia it is important that the mind also should be protected, unless the patient is of phlegmatic character. In general anaesthesia not only the consciousness of pain is to be avoided, but also over-stimulation of the nerve centres controlling vegetative functions. Shock is not, however, fatigue of such centres, but consists in a general depression of vitality resulting from the excessive respiration induced by abnormally intense afferent irritations and by ether excitement, from over-stimulation of adrenalin secretion, and from disturbance of other general functions. The acapnia theory of fatalities under anaesthesia (to be presented in

some detail) teaches that excessive respiration during the stage of excitement, especially under ether, produces alterations of function which, if the method of anæsthetization is sufficiently unskilful, may render even a perfectly healthy man or animal liable to fail under a dosage which would otherwise be borne with impunity. The use of "rebreathing" methods in connection with nitrous oxide oxygen anæsthesia will be touched on and also the use of oxygen containing a small amount of carbon dioxide.

SUB-SECTION VIIb.—ANÆSTHESIA, GENERAL AND LOCAL.

Chloroform Dosimetric Method. Abstract of Report by DR. DUDLEY BUXTON, London.

Dr. Dudley Buxton points out that within a few years of the introduction of chloroform experiment proved its safety lay in its vapour being administered highly diluted. Snow fixed its limit of safety at 2% and all succeeding experiments have confirmed his view. Since Snow much research has taken place and its unanimous findings have shown that the safety or danger of the drug lies in the percentage strength of the vapour introduced into the organism. Means of ensuring exact definite doses being given have been suggested. The criteria of their value appear to be (1) whether the method controls the percentage strength of chloroform vapour independently of the person using it; (2) and does so by providing a limit of strength which can be inhaled however the condition of the patient's respiration may be; (3) whether the anæsthetist knows precisely the percentage of strength he is giving; (4) and can vary that strength at will; (5) whatever strength has been selected that will automatically remain constant until the anæsthetist voluntarily alters it.

All open methods depend for safety wholly upon the personal skill and mental activity of the anæsthetist, and must from their very nature supply a varying strength of vapour. Hence they fail as dosimetric methods. The apparatus of Dubois, of Vernon Harcourt, of Waller and others supply exact dosages and so satisfy the conditions of the criteria. Of these Dubois' and Waller's are plenum systems and as such are extolled by some authorities while the more compact and universally applicable Regulator of Vernon Harcourt can be used on a draw over or a plenum system. It has been pointed out that the only difference between these system is that in the draw over a dead space is interposed between the patient and the ultimate plenum—the

atmospheric—since except in intratracheal anæsthetisation it is the patient whose respiratory action actually does the work of inspiring in the one case from a space filled with air and chloroform vapour of definite strength and in the other from the atmosphere through a system of tubes containing the vapour and air drawn into it by successive respirations. The comparison of the incidence of danger when open methods and dosimetric methods are used indicates the latter are infinitely more safe. They are also more scientific and supply the skilled anæsthetist with an accurate and reliable apparatus by which he can evince his skill by controlling the drug which he is employing.

SECTION VIIb.—ANAESTHESIA, GENERAL AND LOCAL.

Rectal Anæsthesia. Abstract of Report by JOHN H. CUNNINGHAM, JR., Boston, U.S.A.

In reporting upon this subject I feel that there is little for me to maintain, for since the first few years following the introduction of the method of producing narcosis, I have had no personal experience with it except in so much as I have performed certain operations upon patients anæsthetized by the method by some skilled anæsthetist. Realizing that there are here present persons expert in various forms of anæsthesia, and some probably with much more experience with rectal anæsthesia than I, it is my desire to simply review the subject; to give my personal experience and to refer to the work of others which is familiar to me, trusting that in discussion it may be decided where this form of anæsthesia should be placed in relation to other special methods of anæsthesia.

SECTIONS VIII AND XVIII.—OBSTETRICS AND GYNAECOLOGY.

Infant Mortality in the First Four Weeks of Life. Abstract of Report by DR. HENRY KOPLIK, New York City.

Influences detrimental to the foetus; their effect on post natal life. How shown in the new born infant. Disease in the parent as influencing the resistance to post natal infections. Infections at birth; mortality at birth and in the first hours after labor; percentage mortality at this period; influences of modern methods in reducing mortality at this time; diseases formerly common now unusual owing to improved methods. Morbidity among the new-born; prevalence of infections. Causes of death

among the newly born in institutions; preventable causes, and those which result either from inherent weakness or from pre-natal influences.

Some forms of disease begin at birth and the infant thrives apparently to succumb after the first month of life. Mortality in lying-in institutions and hospitals; causes; influence of the mode of feeding; prevalence of breast feeding as compared to artificial; management of congenitally weak infants. Mortality outside of institutions; causes. Difficulty of obtaining statistics and a comparison of mortality of to-day with that of a decade ago. Systematic registry of birth and mortality a necessary preliminary to the institution of measures of prevention. Statistics and methods of the United States as compared with that of foreign countries. Detailed tables of statistics of mortality in the first four weeks of life.

SECTION VIII.—OBSTETRICS AND GYNAECOLOGY.

Cancer of the Uterus (Body and Cervix); Technique and Results. Resume of Report by PROFESSOR DR. DM. DE OTT, St. Petersburg.

CONCLUSIONS.

1. In operating for cancer of the uterus the abdominal route, with removal of the lymphatic glands, should be employed only in special cases, as its results do not sufficiently justify its immediate risks.

2. The operation of election is the vaginal method. The results obtained are in no way inferior to those of the abdominal method, whilst at the same time the risk of a fatal result and of injury to the neighbouring organs is infinitely less.

3. Operation in cases which are obviously desperate, which serve only to increase the percentage of operability, should be completely abandoned, as the exposure of a patient to a foolish and hopeless risk cannot be justified from a humanitarian point of view.

SECTION IX.—OPHTHALMOLOGY.

Injury of the Eyes by Light. Abstract of the Report of PROFESSOR CARL VON HESS, Wurzburg.

In the first place Hess discussed the widespread opinion that ordinary sunlight may injure both the normal and diseased eye respectively, and arrived at the conclusion that this is not the case. He was especially opposed to the usual assumption that

the closing of the lids in scrofulous ophthalmia is due to photophobia. He demonstrated by various examples that the term photophobia is very unsuitable in this connection, and that the terminations of the trigeminus in the cornea and iris cannot give rise to photophobia, as is frequently assumed. In the same way in the scrofulous there are many diseases of the retina and choroid for which various dark cures are employed (the darkened room, dark spectacles), but these dark cures have not a sufficiently established basis, either theoretical or experimental. Senile cataract cannot be traced to an intense effect of daylight, as is frequently assumed. In the following section he discussed injuries of the eye, due to unusually intense influence of sunlight. Blinding after eclipse of the sun, usually due to the influence of the long undulation rays of the spectrum, leading to an injury of the retina by heat, and snow blindness, which is usually due to the influence of the short undulation rays. He further described the results of experimental investigation in regard to the influence of rays of various lengths of undulations, especially short undulation rays, upon the cornea, lens and retina, lightning blindness, short-sightedness, and injuries due to working for prolonged periods with ultra-violet rays.

A special section was devoted to the question of the influence of the modern artificial sources of light upon the eyes. With the ordinary use of our Auer arc lamps red light (through grey or yellow glasses), which is a special protection to the eyes in regard to short undulation rays, is not requisite, as in most cases, if the light is placed in a proper position, the light reaching the eyes is not stronger in light or contains more abundant ultra-violet rays than the sunlight. Workmen, who are in the habit of using arc lamps regularly, rarely have affections of the eyes, the protective measures employed by them being as a rule sufficient. It was otherwise in glass blowers' cataract, which was discussed in more detail. The assumption that it is essentially due to short undulation rays had many arguments in its favor; but has not been established on a sufficiently firm basis.

SECTION XI.—NEUROPATHOLOGY.

With Reference to Myopathic Diseases. Abstract of the Report of PROFESSOR DR. H. OPPENHEIM, Berlin.

The myopathies are conditions which exclusively or predominantly affect the voluntary muscles, and which cannot be traced to any demonstrable disease of the central or peripheral nervous

system. The term myopathy, taken in its most exclusive sense, includes the following diseases:

1. Dystrophies. (2) Congenital muscular defects. (3) Myotonia congenita. (4) Myasthenic paralysis. (5) Periodical paralysis of the extremities. (6) Rachitic and osteomalacic paralysis.

The myopathies are distinguished by the following characteristics:

(a) Simple (non-degenerative) atrophy, dystrophy, paralysis or impediment to movement, which are associated with changes in electrical excitability. The latter do not correspond to the type of the reaction of degeneration, but otherwise exhibit several variations, notably (1) simple quantitative diminution of excitability; (2) the myotonic reaction; (3) temporary loss of excitability; (4) the myasthenic reaction. (b) Extension of functional disturbances according to a fixed rule, which corresponds neither to cerebral, spinal, radicular or peripheral innervation. (c) By the purely motor character of the symptoms. (d) By the tendency to familial occurrence, congenital diathesis, etc. (e) By a certain tendency to combinations and transitions.

Causes of Myopathy.—Congenital factors, hyper-, hypo- or dys-function of the endocrinous glands, exogenous injuries, etc.

SECTION XI.—NEUROPATHOLOGY.

The Nature of the Condition Termed Parasyphilis. Synopsis of Report by F. W. MOTT, M.D., F.R.S.

Parasyphilis limited to tabes and general paralysis. Characterized by mild forms of infection, slight bone and skin lesions, long latent period before signs of nervous degeneration. Causes discussed. Immunity or partial immunity due to widespread latent syphilis. Causes of latent syphilis. The Wassermann reaction and disclosure of latent syphilis, congenital and acquired. Modification of the specific organism by widespread use of mercury discussed, also the possibility of infection by "mercury fast" organisms. Analogy to "arsenic fast" trypanosomes. Relation to comparative uselessness of mercury in treatment. Different forms of spirochaetes discussed in relation to analogy with trypanosomes, possible neurotoxic organism or special affinity of specific organism for the nervous system. Primary degenerative changes of neurones characteristic of parasyphilis in relation to the Wassermann reaction of the blood and cerebro-spinal fluid

of the nervous system. Evidence in favour of a hypersensitivity of the neurones in parasyphilis. Excess of complement fixative in fluid drawn by lumbar puncture compared with that from ventricles indicating degenerating neurones as a source of complement fixative. Parasyphilis due either to the effect of the specific virus or the specific organism on the metabolism of the neurones in conjunction with contributory exhausting factors causing abiotrophy and proportional chronic inflammatory hyperplasia. The discovery of Noguchi and Moore of the spindioti in 12 cases of general paralysis out of 70 may lead to a change of our views in respect to the existence of parasyphilis as distinct from parenchymatous syphilis.

SECTION XIII.—DERMATOLOGY.

Alopecia and Allied Conditions. Resume of the Report of DR. SABOURAUD, Paris.

Since the work done by L. Jacquet we in France no longer believe in the contagion of alopecia areata. Jacquet, applying the researches of Head to this condition, believes it to be of reflex origin, and frequently gingivo-dental. Sabouraud points out that this theory does not apply to all cases, but only to unilateral alopecias, and those of slight or medium severity, and that it is in the most severe forms of alopecia areata that we realize most clearly that we are ignorant of its cause. According to Sabouraud the depilation in alopecia areata is a specific process, and the evolution of the severe forms appears to be associated with general disease, and to coincide with various changes in the skin and nails, vitiligo, erythematous lupus of the ears, psoriasis, etc.

Alopecia areata is a familial and hereditary disease in a quarter of the cases, and there is recurrence in half of them. It is apparently common amongst those suffering from congenital syphilis and tuberculosis, without being in itself a syphilitic or tuberculous lesion. The results of the most recent investigations of Sabouraud indicate its frequency in women at the menopause, and also that it is often associated with thyroid disease in both sexes, or thyro-ovarian in women, numerous owing to prostitution—and also in those who suffer from pathological sexual inversion, compulsory treatment is desirable, with subsequent control until complete recovery has occurred.

SECTION XIV.—UROLOGY.

The Diagnosis and Treatment of Early Malignant Disease of the Prostate. Abstract of Report by HUGH H. YOUNG, M.A., M.D., Associate Professor of Urological Surgery, Johns Hopkins University, Baltimore, Md., U.S.A.

Twelve early cases of carcinoma studied in detail. The early symptoms are not different from that of benign hypertrophy. Pain and hematuria not early symptoms. Diagnosis based on presence of marked induration—either a small nodule, or a lobe, or a whole lobe or the entire prostate—with or without infiltration beneath the trigone. Carcinoma is accompanied by benign hypertrophy in fifty per cent. of the cases, the cancer being separate and occupying the posterior subcapsular portion in almost all cases.

Radical operation must include the whole prostate, a cuff of the bladder with most of the trigone, and both seminal vesicles (the author's operation). Six cases, with three radical cures (10 and 5 years) in cases with small cancer nodules completely excised by less radical operation reported. Forty-six cases of extensive carcinoma, operated by conservative perineal prosta-tectomy with 65% permanent relief of obstruction and only two deaths reported.

SECTIONS XIII. AND XIX.—DERMATOLOGY AND SYPHILOGRAPHY AND FORENSIC MEDICINE.

Syphilis as a Danger to the State and the Question of State Control. Abstract of Report by PROFESSOR DR. A. BLASCHKO, Berlin.

Amongst the measures for the combat with syphilis which are absolutely essential is state control, that is to say, political measures against the communication of the disease by means of prostitution. In no country, however, has the so-called regulation of prostitution shown itself an effectual method for reducing the incidence of venereal disease, chiefly owing to the fact that the regulations do not include the most dangerous individuals. A purely sanitary system is therefore to be preferred to this system of regulation, which, recognizing the impossibility of dealing with *all* sources of infection through *any* system of supervision, aims at rendering this especially dangerous one innocuous. Such a system, as it already exists in Norway, should affect *both sexes* in a similar manner, should stamp no single

person authoritatively as a prostitute, and on this account burden them with exceptional enactments, such as the entering their names on a list, preventive visits and police control.

SECTION XV.—LARYNGOLOGY.

(Jointly with Section XVI. Otology; Discussion II.)

The Methods and Results of Treatment of Diseases of the Throat, Nose and Ear by Salvarsan and Other Arsenical Compounds. Abstract of Report by DR. ANDRE CASTEX, Paris.

1. Salvarsan and neosalvarsan are often useless and sometimes harmful to the ears, as the syphilitic poison appears to have an elective influence upon the nervous system.

2. In cases in which mercury has been employed in the same individual, it has obviously been more efficacious than salvarsan and neosalvarsan.

3. On the other hand "606" is useful in syphilitic affections of the nose, pharynx and larynx.

4. The employment of atoxyl exposes the patient to the risk of the development of neuritis, and hectin is not of much service.

It therefore seems to me that the arsenical compounds are only of moderate importance in oto-rhino-laryngology.

SECTION XIII.—DERMATOLOGY AND SYPHILOGRAPHY.

Epithelioma of the Skin—Benign and Malignant. Abstract of Report by JOHN A. FORDYCE, M.D., New York.

Dermatological observations favor the view that epithelial hyperplasia is the result of stimulation of parasitic, mechanical, physical or chemical origin, the amount and kind of irritation, as well as individual susceptibility, determining the result.

A consideration of the precancerous affections of the skin—senile, keratosis, seborrhæic warts, xeroderma pigmentosum, leucoplakia, lupus, nævi, X-ray and other burns, cicatrices.

A demonstration of various types of epitheliomata belonging to the squamous and basal-celled group.

The treatment of cutaneous epitheliomata by surgical and dermatological methods, including radiotherapy.

SECTION XVII.—STOMATOLOGY.

Dental Diseases in Relation to Public Health. Abstract of Report by J. SIM WALLACE, D.Sc., M.D., L.D.S.

The diseases of the teeth are extremely common and lead almost inevitably to many other ailments, often serious. Such

diseases cost the public many millions of pounds annually. The diseases which result from the same errors as those which cause dental diseases are also numerous and costly. The treatment of dental diseases is expensive and of but temporary utility. The prevention of dental diseases by physiological means is simple and free from expense. The physiological method of preventing dental diseases has resulted in an enormous decrease of these diseases wherever the method has been adopted.

SECTION XVIII.—HYGIENE AND PREVENTIVE MEDICINE.

The Factors that Determine the Rise, Spread and Degree of Epidemic Diseases. Abstract of Report by DR. G. STICKER, Bonn a/Rh.

We have learnt from the well-known examples of influenza, plague and cholera that he who wishes to ascertain the conditions of parasitic epidemics must first of all study their general characteristics. He must then investigate each disease individually and in its whole extent, historically, geographically, biologically, monographically, experimentally, in short, philosophically. It never has been and is not now sufficient to study a disease solely from an anthropological standpoint as a human disease, but it is essential also to study it from a higher standpoint, that of the leimologist. The leimology of the future will enquire as to what particular time and place are favorable to a particular epidemic, and what unfavorable, which are permanently favorable or unfavorable; whether and to what extent animals and plants participate in the human disease, and whether they do so as sufferers from the effects of the germ or as transmitters of it. Also where the transmitter of the germ harbors it, who its transmitters are, whether animals or plants, whether there are lifeless producers, immediate bearers and transmitters of it, whether normal accessory bearers and lifeless harborers participate; what other epidemics are constantly or occasionally associated with the parasitic epidemic, rendering its course longer and its severity greater, and thus influencing the particular disease under consideration.

SECTION XVIII.—HYGIENE AND PREVENTIVE MEDICINE.

Schools and Myopia. Abstract of Report by DR. JAMES KERR, London.

High grade myopia in children requires special education in so-called myopic schools.

The prevalence in the population of a mass of low grade myopia largely associated with excess of eye work calls for prophylactic school treatment, in the diminution of all book work, and its practical elimination before the age of eight. The lighting of schools requires much improvement, and back lighting as the main source of illumination in classrooms should be absolutely prohibited.

A stringent rule to exclude myopes from literary careers should refuse scholarships to myopes of 4D or more, and all candidates for the teaching profession should be rejected for myopia of 6D or more.

SECTION XIX.

The Teaching of Forensic Medicine, Including the Construction and Equipment of a Medico-Legal Institute. Abstract of Report by PROFESSOR DR. H. ZANGGER, Zurich.

The duties of the Medico-Legal Institute and the teaching of forensic medicine consist in carrying out, theoretically and practically, the various legislative enactments in regard to medicine, more especially in the qualitative and quantitative estimation of facts which influence any real or supposed deviation from justice in regard to the human body or any of its parts (criminal law, civil law, warrants of arrest, insurances). In this connection comparative study of the information acquired (or evidence) is alone sufficient to supply a vivid picture of the actual occurrences. The student should take a personal interest in the individual cases, and be interested in the results of the sentence; he should endeavor to ascertain the method, the choice of methods, and, above all, the possibility of applying them under various conditions. The most important acquisition is the power of reconstructing, from the dynamic and substantial traces deduced from evidence, the processes and causes which led up to the prejudicial actions.

SECTION XIX.—FORENSIC MEDICINE.

The Psychology of Crime. Abstract of Report by PROF. DR. WEYGANDT, Hamburg.

The matter has been the subject of recent legislation in Hungary (1908), England (1909), Italy (1910). The idea of crime changes and the law is sometimes in advance of and sometimes behind general opinion. Crime is a product of the individual

and his environment, and among the former inheritance plays the principal part. Criminals may be divided into:

1. Occasional criminals.
2. Emotional and inductional criminals.
3. Opportunists.
4. Habitual criminals.
5. Professional criminals.
6. Feeble-minded criminals.
7. Insane criminals.

Which represent progressive degrees of variation from the normal.

Punishment can no longer be defended as retribution. This idea has led to much injustice, although still held by the Vulga. It seldom deters. Punishment should aim at protection from fresh crime, and may take the form of segregation of habitual criminals, industrial and reform institutions for occasional criminals, educational institutions for the young or feeble-minded, inebriate and lunatic asylums, but the duration of such segregation should depend upon the success of treatment and should not be settled beforehand. Preventive measures are at least as important as punitive.

SECTION XX.—NAVAL AND MILITARY MEDICINE.

Physiology of Physical Exercises and Marches. Abstract of the Report of Naval Staff Physician, DR. BUCHINGER, Flensburg.

The reporter reviewed very briefly the most important facts in regard to the physiology of physical exercise. Then followed a summary of the scientific experiments in marching by Zuntz and Schumburg, after which he gave a short account of his own experimental results.

He then referred in rather more detail to two special questions, which he considered especially important. In the first place he dealt with the influence of alcohol upon physical exercise and marching. He recommended total abstinence for every gymnast, sportsman and soldier. He then discussed the question of nutrition, which was equally important. He reported a series of scientific facts and observations, which were very much in favor of a vegetarian diet, especially in cases of constant and long-continued exercise.

He finally referred to some experiments in marching in soldiers who were living on a vegetarian diet, the experiments being conducted by trained physiologists, who participated in the nutrition investigations.

SECTION XXI.—TROPICAL MEDICINE AND HYGIENE.

Sanitary Organization in the Tropics. Abstract of Report by
DR. NITZE.

Sanitary organization in the German Colonies varies according to tropical and sub-tropical conditions, and further in these regions according to whether they are with or without protective forces, and according to white and colored races. In regard to personnel there are for the civil medical service physicians and sanitary assistants; for the military service, sanitary officers and assistant officers, and, in addition, there are in connection with both services nursing sisters. He referred to the duties, rights and payment of these officers. Their duties in hospitals, military hospitals, convalescent homes, polyclinics, and on expeditions. Lying-in Hospital in Southwest Africa. Sleeping sickness investigations. Scientific investigations. Drawing up reports. Disposition of sanitary material. Qualifications and distribution. Sanitary care of the troops.

SECTION XXII.—RADIOLOGY; AND VIIA.—ORTHOPAEDICS.

(Joint Discussion 5.)

The Radiography of Bones and Joints and Its Value in Orthopaedic Surgery. Summary of Report by DR. G. NOVE-JOSSE-RAND, Lyons.

Radiography renders possible the study of deformities in the living subject and during the period of growth. It permits of their recognition, of distinguishing their varieties, of following their evolution, and of determining the modifications in the architecture of the bone which result from them. It therefore gives valuable information in regard to diagnosis and treatment; it has also added to the casuistic of deformities, has discovered new ones, and shown their relation to one another. Its importance is particularly great in the study of congenital scoliosis, the diseases of Dupuytren and Madelung, congenital dislocation of the hip, deviations of the neck of the femur, and of pes planus.

SECTION XXIII.—RADIOLOGY.

(Discussion 1.)

The Radiography of the Stomach and Intestines. Abstract of Report by CHARLES LESTER LEONARD, A.M., M.D., Philadelphia, U.S.A.

The advance in radiography of the stomach and intestines has been very rapid. The Rontgen examination is now a *sine qua non* before all operations.

The diagnosis of functional motility, perforating and penetrating ulcers, hour-glass contractions and their differentiation from malignant disease renders it of undisputed value to the internist and surgeon. The recognition of ptoses of the stomach and intestines is impossible without its aid. Studies of various forms of constipation and the action of drugs in these conditions are of the utmost value, while the diagnosis of lesions of the large intestine are impossible without the precision it affords in exactly determining their position and extent.

INTERNATIONAL MEDICAL CONGRESS

We understand that Canada will be well and fully represented at the coming Congress in London next August. Among those who have indicated their intention of going are: From Toronto, W. H. B. Aikins, H. B. Anderson, T. G. Brodie, A. M. Baines, H. A. Bruce, G. Chambers, C. K. Clarke, I. H. Cameron, J. M. Cotton, J. Ferguson, J. T. Fotheringham, H. J. Hamilton, V. E. Henderson, Ernest Jones, J. B. Leathes, J. P. McMurrich, A. B. McCallum, J. W. S. McCullough, A. McPhedran, J. J. McKenzie, R. A. Reeve, Bruce Smith, C. L. Starr, J. S. Simpson, D. K. Smith, J. Gibb Wishart, Milton Cotton and J. W. S. McCullough; from Montreal, J. G. Adami, G. E. Armstrong, A. D. Blackader, H. S. Birkett, T. J. W. Burgess, Philip Burnett, G. G. Campbell, J. M. Elder, F. G. Finlay, J. A. Hutchison, E. P. Lachapelle, D. E. LeCavelier, A. McPhail, D. D. McTaggart, E. St. Jacques, F. J. Shepherd, J. W. Stirling, D. A. Shirres, and J. L. Todd; from Winnipeg, Gordon Bell, H. H. Chown, J. Halpenny, G. O. Hughes, R. M. Simpson and Swale Vincent; from Ottawa, C. A. Hodgetts and C. G. C. Jones; from Kingston, J. C. Connell, W. T. Connell, Edward Ryan, and James Third; from Halifax, W. H. Hattie and John Stewart; from London, F. A. Drake, H. Meek, H. A. McCallum, J. McCallum, H. T. Williams; from Calgary, H. G. MacKidd; from Brandon, E. W. Allin; from Diamond City, H. T. D'Arc; from Elmwood, J. B. Brown; from Mitchell, A. Dalton Smith; from St. John, Murray McLaren.

THE ONTARIO HEALTH OFFICERS' ASSOCIATION

The Ontario Health Officers' Association, which met on the 29th and 30th of May, under the presidency of Dr. Adam Wright, was a decided success. The meeting was held in the Parliament Buildings, and the only fault to be found was in the fact that the place of meeting was rather small, as it was scarcely expected that the number in attendance, some three hundred, would be so great.

This Association, the first meeting of which was held last year in connection with the Canadian Public Health Association, is composed of members of the Provincial Board of Health, the District Officers of Health and the Medical Officers of Health of the various municipalities in the Province. There are about 770 Medical Officers of Health in Ontario, and by law they are required to attend this meeting. Their expenses are paid by the local municipalities.

Papers were presented under various headings, such as: "The Duties of the Modern Medical Officer of Health in Cities and Towns," by Drs. Hastings and Dickinson; "Communicable Diseases," including smallpox and cross-infection, in isolation hospitals.

A feature of the meeting was the paper of Professor Whipple of Harvard, "The Value of Vital Statistics in Relation to Public Health." This was an excellent paper; it was discussed by R. E. Mills, of the City Health Department.

Dr. Hodgetts' paper on "Home Hygiene" provoked considerable discussion. He contended that medical inspection of schools, being part of public health work, should be placed under the Health Department and not under the Board of Education, as is the case in Toronto. He claimed that the present system caused duplication of work and a waste of public money. He also objected to nurses making a diagnosis of cases. The Association evidently agreed with his views, as the members passed a resolution to be sent to the Minister of Education, asking that medical inspection of schools be transferred to the control of the Provincial Board of Health.

The city of Toronto tendered a luncheon to the members on the first day of the meeting. Mayor Hocken presided and welcomed the visitors. Short addresses were given by Dr. Adam Wright, Dr. Hodgetts, Professor Whipple, Dr. Hastings, Dr. Mc-

Cullough and Alderman Rowland, Chairman of the City Board of Health.

In the afternoon session Dr. Adam Wright gave a witty and instructive address, and Controller McCarthy, on behalf of the Mayor, gave an address of welcome. Dr. J. A. Amyot gave a public address to a large audience in the evening on the subject of "The Transmission of Communicable Disease." Motion pictures illustrating various phases of sanitary work were provided by the Provincial Board.

On the second day the question, "Should the medical practitioner be paid for reporting communicable diseases, births and deaths?" started a lively discussion. The general opinion seemed to be that the medical man was entitled to some remuneration for this work, and a resolution was passed asking that the local municipalities be required to pay a fee of 50 cents for each birth and death and for each case of communicable disease reported.

Dr. Parfitt and Miss Eunice Dyke read papers on subjects relating to tuberculosis. There was a free discussion. The milk question was taken up by Drs. G. G. Nasmith and A. W. Macpherson. The "Question Drawer" was most interesting. Drs. Amyot and McCullough gave answers to a large number of practical questions.

After a luncheon in the Parliament Buildings short addresses were given by Rev. Dr. Cody and Hon. W. J. Hanna. The last session was taken up with papers on "Sanitary Work Amongst Foreign Population," by Dr. C. N. Laurie; "Disposal of Waste and Garbage," by Dr. Hall, and "Disposal of Domestic Sewage," by Dr. R. E. Wodehouse. All of these were freely discussed.

Dr. C. J. Hastings, Medical Officer of Health for the City of Toronto, was elected President.

The Association meets annually.

QUESTION DRAWER—ONTARIO HEALTH OFFICERS' ASSOCIATION

BY DR. J. W. S. McCULLOUGH.

1. Should the Sanitary Inspector attend quarterly meeting, and if he does should he get paid extra in a municipality only paying \$15 to Sanitary Inspector?

Answer: There is no provision for Sanitary Inspector attending meetings. He should get sufficient salary. He is not obliged to attend meetings unless instructed by the Board.

2. In case of disposal of sewage according to your regulations re septic tank, what course do you advise where there is not sufficient ground for system?

Answer: If there is not sufficient land area, the effluent from septic tank should be otherwise provided for. If the soil is unsuitable (clay), 12 or 18 inches of sand might be deposited over the clay and the subsoil pipes laid in this as described in pamphlet on Sewage Disposal issued by the Provincial Board.

3. What does this convention consider a reasonable minimum salary for M. O. H. in villages, towns and townships?

Answer: In towns a reasonable salary might be based on the population, say \$100 for the first thousand and \$25 or \$50 for each additional thousand or portion thereof.

In townships it is difficult to say what is a reasonable salary. Some townships pay \$100, some \$5 or \$10. As soon as the M. O. H. demonstrates to the public that he is worth it he will usually obtain a better salary. It would be a good plan for the M. O. H. to call public meetings for the various schools in his municipality and give an address to the ratepayers, children and teachers upon sanitary matters. If he desires it, the District Officer of Health will help him in any way possible.

4. Explain intentions of the Act in the case of payment for time in addition to hotel and railway fare:

(a) Where the M. O. H. has a special amount as salary.

(b) Where the M. O. H. has no salary specified.

Answer: The M. O. H. can only collect for hotel and travelling expenses. Usually, however, the municipal council pays a per diem allowance for loss of time. Under Section 22 of the Public Health Act the Local Board of Health might vote a sum

for services rendered, which might be made to include the per diem allowance.

5. What are the duties of District Officers of Health in relation to township Local Boards?

Answer: To advise and assist the M. O. H. in improving sanitary conditions of the municipality.

6. Can the municipal Local Board of Health compel the trustees to give a report as to the sanitary condition of school, and if they do not and they send our inspector, can we compel the trustees to pay for expense of sanitary inspection?

Answer: No, it is the duty of the M. O. H. to inspect the schools and disinfect at expense of the municipality if necessary.

7. Can a man whose lot does not run 100 feet from his house in a small country village keep a pig?

Answer: No. See paragraph 20, Schedule B, Public Health Act.

8. What should be given as *immediate* cause of death in this case: A man had paralysis agitans for three years and epithelioma of face for two years. He refused operation for the latter and, gradually becoming weaker, died at age of 79. The disease which caused death was epithelioma, but what would you put down for immediate cause and how could you determine its duration?

Answer: Cause of Death—Carcinoma of face, because it is of shorter duration. Immediate Cause—None.

9. I visited a house suspected of having had scarlatina, and found a girl eight years old, who, they said, had the "grip" six weeks previously. They stated positively that there had been no rash and no vomiting, but a sore throat lasting for two or three days. There was no sign of desquamation, but a pronounced cervical adenitis, the glands on one side being as large as a hen's egg, and the child was very anæmic-looking, but no physician had seen her. Should I have ordered the house and the child's person and clothing to be disinfected? Should I have placarded the house till this was done?

Answer: If scarlet fever in neighborhood, this was probably a case of it. Best to have had house and child disinfected. No need to placard after six weeks.

10. Visited a house in which I found a young lady who had been sick three weeks previously. Had had slight rash, sore throat and vomiting. Slight desquamation on face, especially forehead at roots of hair. I placarded house, but allowed girl's father to continue gathering cream upon the mother agreeing to

keep girl isolated. Should I have done so? No physician had been called.

Answer: This is a case of scarlet fever. Should have stopped the father collecting cream. See Regulation 4.

11. Have heard that these people are going out in spite of quarantine, but no complaint has been sent in and they live ten miles from here. Should I go and investigate?

Answer: If the M. O. H. has quarantined, he should be satisfied that his orders are carried out.

12. Does certificate have to be signed before the M. O. H. can collect his expenses from the municipality?

Answer: The members' ticket will be sufficient voucher. If any difficulty, write the Chief Officer of Health.

13. We are supplied with a very inefficient sanitary inspector, who will not follow instructions nor try to make himself efficient. The City Council have been notified of the condition and asked to supply a competent inspector, which so far they have failed to do. What do you advise the Local Board of Health to do to remedy the condition?

Answer: The Local Board of Health may employ and pay any sanitary inspector they wish. Payment may be made under authority of Section 22 of the Public Health Act.

14. Description of suitable box for manure at stables, as to size, etc.

Answer: Size about 4 x 4 x 4 feet, with screen top. As flies require 14 days in which to breed and grow to full size, there will be no necessity for screening if manure is removed and spread on fields once a week.

15. We find that some householders put old tins and broken china, etc., in privy vault, and this creates an objection on part of farmers to receive the night soil or give dumping ground. How may this be prevented?

Answer: Educate and prohibit by by-law. The greater portion of household garbage should be dried as well as possible and burned in the stove or furnace.

16. Appointment of M. O. H.

This officer should be appointed by by-law at a stated salary which the Act says must be a reasonable salary, Sections 37-39. He cannot be dismissed except for cause and with the approval of the Provincial Board.

By a decision of Mr. Justice Lennox, the M. O. H. of 1912, unless appointed by the Council of 1913, does not retain office, but the properly appointed officer of 1913 continues in office subject to terms of Section 37.

17. Cost of disinfection is borne by the Local Board of Health (Section 29), except as covered by Section 62, 1 and 2.

Expenses of persons with communicable disease.

This is supplied in the first instance by the M. O. H. or Local Board of Health, but the corporation of the municipality may recover from the person the amount spent in providing medicine, nurses and other assistance and necessities for him, but not for the expenditure incurred in providing a separate house or in otherwise isolating him. Section 58, (1) and (2).

18. In a garnishee action now pending between the Local Board of Health, plaintiff, and one Reid, a lumberman, defendant, where payment is demanded by the Local Board for cleaning up the nuisance perpetrated by Reid in his lumber camp, counsel for defendant claims that in such an action the Local Board of Health non esse; that action must be taken by the municipality. Kindly rule.

Answer: Council must take action. Section 58, (1) and (2).

19. Is it advisable to compel all farmers in back country townships to clean out wells annually where the townships are not very wealthy and find it hard to carry out the Act?

Answer: Advise that all wells be cleaned out. Don't attempt too arbitrary measures. Educate the public and they will soon see the benefit.

Rectal Administration of Salvarsan

Rajat (*Ann. des mal. ven.*) while not wishing to defend salvarsan nor to advocate its employment instead of mercury, draws attention to the administration of the drug, per rectum, a method which he considers of equal value to other methods. The patient is prepared by an enema of a litre of water. The dose of salvarsan is dissolved in 120 c.cm. of artificial serum in the proportion of 5 per 1,000, with the addition of soda, if necessary, to obtain complete solution. It is administered by means of a rubber injector, and retained for thirty-six to forty-eight hours. The author maintains that the effects obtained are absolutely similar to those after intravenous injection, and that rectal administration is free from many of the dangers of other methods. He has tried it in 125 cases.—*B. M. J.*

Editorials.

THE BRITISH INSURANCE ACT

There is something exceedingly sad about certain features of the results of the new act in Great Britain. Many physicians absolutely opposed to the Act have been forced to take service under it or starve with their families. In a very sensible editorial on the subject in the *Interstate Medical Journal* the writer tells that those who have accepted service are of four classes: 1. A very small number who endorsed the Act. 2. Political partisans. 3. Professional derelicts. 4. A body of physicians much larger than all others combined, who have yielded under compulsion.

While some say that the Act is working smoothly there are many indications that such a statement is incorrect. Many of the insured complain bitterly that they can no longer have their own doctor because he is not on any panel; that patients are bandied about between hospital and panel doctor; many doctors complain that their insurance work keeps them fully occupied for an average of 14 to 16 hours a day largely with mere clerical work; they say they have to engage clerks or press their families into service; that their private practice has been lost to them in consequence; that they are sent for to treat trivial and often absurd matters, as for instance in one case, to cut a patient's corn.

It is also stated that there is a great diminution in individual subscriptions and donations to hospitals. The King Edward Hospital Fund shows a drop of

\$330,000 from the preceding year, which is the first check in a progressive rise since its establishment. The returns from the hospitals Saturday and Sunday are also much diminished. In addition to such drawbacks the hospitals have to incur a heavy expense for insuring their own employees (\$4,250 a year at the London Hospital). "Finally a fall of several hundreds in the number of entering medical students last session suggests the possibility of a shortage of medical men in the near future."

We learn from the *British Medical Journal* that the executive of the British Medical Association are working actively in the interests of the medical profession of Great Britain. It is generally understood that some rather important amendments of the Act will be passed at the next meeting of Parliament. They have drawn up a memorandum on points which the Association desires to submit for the consideration of the insurance commissioners.

TORONTO GENERAL HOSPITAL

The new buildings of the Toronto General Hospital, College Street, were formally opened June 19th. We understand the actual cost of the buildings will be about \$3,500,000. When the plans were first drawn up in 1904, the estimated cost was \$1,250,000, that is about one-half the actual cost. The space covered by the site is about nine acres, purchased at a cost of \$608,000. The work of construction commenced November, 1910. There are 670 beds, i.e., about 300 more than in the old hospital. 520 beds are for the

public ward patients and 150 for private ward patients. The following sums have been collected up to the present time:

City of Toronto	\$ 400,000
University of Toronto	600,000
Private citizens of Toronto	1,400,000

The amount at present unprovided for is \$1,100,000. The trustees, however, have certain assets, namely, the old hospital property on Gerrard Street East and pieces of property in various parts of the city.

THE HOUSING PROBLEM IN TORONTO

The housing problem in all large cities in all parts of the world is being seriously considered at the present time. We learn from Dr. Hastings' bulletin that during the past two years 451 houses have been condemned by the Department of Health as unfit for occupation. Of these 124 were placarded and closed, 84 were destroyed, others are being closed and destroyed, and many others are being improved in condition.

It has been exceedingly difficult to obtain a condition of things which is satisfactory from the health standpoint. It happens that housing accommodation in the City of Toronto is limited to a degree which was never known before. When families are found in undesirable places they can not very well be turned out into the streets.

We believe that Controller McCarthy has given the matter a great deal of careful consideration. He advises the City Council to sell its waste and useless

bits of land adjacent to park areas and other suitable localities for the development of housing units as proposed by what is known as the Toronto Housing Company.

It is estimated that there is at least one half million dollars worth of useless land in Toronto, from which the citizens are deriving no benefit. The adoption of Controller McCarthy's proposal would mean the utilization of these areas for the creation of proper housing facilities for the working man. We sincerely hope the housing reform proposals will receive the approval of all the members of the City Council.

ONTARIO HEALTH OFFICERS' ASSOCIATION

The Second Annual Conference of the Medical Officers of Health of Ontario, was held in the Parliament Buildings, Toronto, May 29th and 30th. It is not literally true that there was not a conference of health officers in Ontario before the year 1912. As a matter of fact there were two or three conferences about ten years ago or more, but the attendance at those meetings was so small that the Association could accomplish nothing and actually died of inanition.

In the Medical Health Act of 1912 it was enacted "that there shall be an annual meeting of the Health Officers of Ontario. At the meeting of the Canadian Health Association last year in Toronto, there was a separate section for the medical officers of health. They considered it expedient at that time to organize an Association to be designated the Ontario Health Officers' Association. The officers elected last year, and especially the Chief Officer of Health, Dr. McCullough, and the Committee on Papers, Drs. Emerson

Bull, Geo. Nasmith and W. G. H. Jeffs made elaborate preparations for the meeting of this year.

There was considerable speculation among the friends of the society as to the success or otherwise of the meeting. It was considered a sort of experiment, which, judging from past history, might not yield very good results. Dr. McCullough after careful inquiries learned that not less than 200 were likely to attend.

All doubts as to the success of the meeting were relieved on the forenoon of the first day. Nearly 300 members appeared sharp on time. Considered as a whole it was certainly one of the most successful medical meetings ever held in Canada. There were present, as stated, something like 300, and from start to finish the room which had a seating capacity of over 200 was generally filled and sometimes overcrowded.

An exceedingly interesting paper was read by Professor Geo. Whipple, of Harvard University, on "The Value of Vital Statistics in Relation to Public Health." Among the other subjects discussed were: Duties of the Modern M. O. H., Smallpox, Cross Infection, Home Hygiene, Tuberculosis, Milk, Disposal of Waste and Garbage, and Disposal of Domestic Sewage. One of the most interesting features of the meeting was the "question drawer." The members were requested to ask questions on any matters connected with sanitation. Brief answers were given by Dr. Amyot and Dr. McCullough.

The next meeting will be held in Toronto probably during the early summer of next year. The officers elected are: President, Dr. Charles Hastings, Toronto; Vice-President, W. R. Hall, of Chatham; Secretary, Dr. McCullough; Committee on Papers, Dr. John Amyot, Chairman.

THE DOMINION MEDICAL COUNCIL

It will be remembered that the Dominion Medical Council held its first meeting in Ottawa last November. After a general discussion of the Act in all its phases no definite rules were adopted at that time. Another meeting (technically, an adjourned meeting) was held in Ottawa, June 17, 18, 19. At that meeting the organization under the Dominion Medical Act was completed, and by-laws and regulations were adopted. Arrangements were made for the first Dominion examination, which will begin in Montreal, October 7th of this year. The Dominion Register will be opened at Ottawa, July 1st. The next meeting of the Council will be held in Ottawa, June 16th, 1914.

Under the new Act we understand the Provincial Medical Councils are not to be abolished, but a medical graduate, who, in the future, passes the Dominion Council, may, without further examination, practise anywhere in Canada, after registering. Physicians of good standing for ten years before October, 1912, may secure registration without examination.

Hon. Dr. Roche, Minister to the Interior, who convened the first meeting of the Council, last November, was elected an honorary member. As before announced, Dr. R. W. Powell, of Ottawa, was elected Registrar. The first name on the Dominion Registrar, we are told, will be that of Dr. T. G. Roddick, the President, and father of the Bill. The Act was first passed by the Dominion Parliament some years ago, and afterwards ratified by the different Provincial Legislatures.

We heartily congratulate Dr. Roddick on the happy results of his magnificent work for many long years.

REPORT OF COMMITTEE ON THE FRIEDMANN SERUM FOR TUBERCULOSIS

In order to allay public excitement and to afford to the medical profession and people of Canada an authoritative statement regarding the value of Dr. Friedmann's treatment, the Canadian Association for the Prevention of Tuberculosis nominated a committee of five members to study and report upon the cases inoculated by Dr. Friedmann at Montreal, Ottawa, Toronto, and London, Ontario. That committee has added to itself three physicians who have under observation the cases treated in these cities. The committee thus constituted begs to report that it has carefully studied the case histories of the patients inoculated by Dr. Friedmann. These number altogether 161, namely: for Montreal 55, for Ottawa 10, for Toronto 81, for London 15.

As a result of our observations from March 11th to the present, the following conclusions seem justifiable:

(1) The inoculations have neither constantly nor frequently been followed by any marked change in the clinical course of the disease.

(2) The cure, or progress towards cure, claimed by Dr. Friedmann for his treatment has neither constantly nor even frequently taken place in the time during which these cases have been under observation.

(4) Thus, upon investigation, the committee finds that the results have been disappointing, and that the claims made for this remedy have not been proved, and that nothing has been found to justify any confidence in the remedy.

This report was signed by Prof. J. Geo. Adami, Prof. J. J. MacKenzie, Dr. A. H. Caulfield, Dr. E. S. Harding, Dr. John W. S. McCullough, Dr. Wm. H. Ross, Dr. J. H. Elliott, Dr. Geo. D. Porter.

Dr. Chas. A. Hodgetts, a member of the committee, being absent from making any report whatever, did not sign the above.

London, June 25, 1913.

EDITORIAL NOTES

NOTE.—A correspondent has pointed out to us that the facts mentioned in the editorial respecting Dr. Temple in our June issue were not correct. We may say in connection therewith that there was one printer's error which was of some importance: "Up to the time of his resignation" should have read "up to the time of amalgamation."

The International Waterways

The investigation of the International Waterways is still going on. The Provincial Board of Health has been at work since April 1st, and has eight men at work investigating samples of the various waterways.

Medical Officers of Health

There has been a certain amount of confusion and difference of opinions as to the legal aspect of the appointment of Officers of Health by the municipalities of Ontario. A short time ago Mr. Justice Lennox ruled that a Medical Officer of Health for any municipality in 1912 could not retain office for 1913 under the Act unless appointed by the Council for 1913.

Ontario Medical Commission

Sir James Whitney announced at the opening ceremonies of the new Hospital that the Government had decided to appoint a commission to investigate the whole subject of medical education and the practice of medicine in Ontario, the object being to acquire information upon which to base legislation for every imaginable application, in order to regulate and control all in the interests of the Province.

The term "medicine" will include all plans or means of alleviating or curing human defects, disorders, diseases or wounds.

The investigation will include the College of Physicians and Surgeons, and the exercise of their powers and duties. It will also cover the medical faculty of any university or college, and what is taught there.

It will include osteopathy, dental schools, nurses' training schools, as well as opticians and their training.

The investigations will also include the practice of any branch of medicine by Christian Scientists, or by any other class or sect; and by the time they get through all these their statement will be of such a great and comprehensive character as to be a lasting benefit to the Province and the Legislature, enabling the Government to deal with all such matters in an intelligent manner.

Reporting Typhoid Fever

It does not appear to be generally understood by physicians that they are required by Section 55 of the Public Health Act to report cases of typhoid fever.

In the last Toronto Health Bulletin physicians of the city are urged to make use of the laboratories of the department for cases where typhoid fever is suspected. Outfits for sending specimens of blood to be tested for the Widal reaction are kept at all the drug stores which carry diphtheria outfits. The typhoid outfits may be mailed or sent by messenger.

Care of the Feeble-Minded

A movement for the more efficient care of the mentally deficient has found a cheerful and hearty support from the Ontario Government. The Government decided a short time ago to create a new office in the Provincial Health Department. The Hon. W. J. Hanna has publicly announced that Dr. Helen MacMurchy, of Toronto, has been appointed Inspector to the Feeble-Minded, and Assistant Inspector of Hospitals and Charities.

Dr. MacMurchy is well known throughout Canada because of the great work she has been doing for years in connection with matters pertaining to Public Health. She is a daughter of the late Archibald MacMurchy, LL.D., of Toronto. She graduated from the University of Toronto in 1901. After graduating she did considerable post-graduate work at the Johns Hopkins Hospital, Baltimore. On returning to Toronto, she commenced general practice.

At the present time the Asylum at Orillia is the only public institution for the weak-minded in Ontario. The accommodation there is totally inadequate to the needs of the Province. In addition, it may be stated that it receives only one class of

mentally defectives, i.e., those whose deficiency makes their detention in an institution a necessity in order to keep them from harm. Those who are only partially developed in mental power are not provided for.

The *Mail and Empire* of June 20th, in an editorial, states that. "It is established that the population contains a large number of both young and old, whose mental capacity is so far below normal as to require that the State shall make special preparation for them."

It will be remembered that in November last there was a large meeting of municipal representatives from the different municipalities of Ontario held in the Parliament Building. At that meeting there was an extended discussion respecting the division of responsibility for the care of the feeble-minded between the government and the municipalities.

NEWS ITEMS

The Council of the City of Toronto has signified its willingness to grant to the New General Hospital the sum of \$210,000. The full amount thus donated by the city, including \$400,000 donated some time ago, will be \$610,000.

The Trustees of the Toronto General Hospital are as follows:

Appointed by the Government: His Honor Sir John Gibson, Lieutenant-Governor; Prof. A. B. Macallum, Cawthra Mulock, Sir William Mackenzie, Eugene O'Keefe, D. R. Wilkie, W. J. Douglas, Mark H. Irish, and J. C. Eaton.

Appointed by the University of Toronto: John Hoskin, K.C., President Falconer, Sir Edmund Walker, Z. A. Lash, and Sir Edmund Osler.

Appointed by the City: His Worship Mayor Hocken, Ald. Burgess, Meredith, Wanless and Wickett.

Elected by Subscribers: H. H. Fudger, P. C. Larkin, D. A. Dunlap, W. E. Rundle, C. D. Massey, H. C. Cox, and J. W. Flavell (Chairman).

Personals

Dr. F. C. Harrison, of Toronto, returned from England the latter part of June, after visiting the principal medical centres in Europe.

Dr. Alan W. Canfield, of 313 Brunswick Avenue, Toronto, desires to announce to the profession the restriction of his practice to the diseases of children.

Dr. Chas. J. Hastings, M. O. H., Toronto, and Street Commissioner Wilson went to Cleveland and Milwaukee to study their methods of treatment of waste and garbage, June 16.

Dr. John W. S. McCullough, Chief Officer of Health for Ontario, will spend the greater part of two months, July and August, on the Continent, studying chiefly the sewage problems.

Dr. Bryce McMurrich announces that he is devoting his time to the treatment and care of cases of alcoholism and drug addictions, and has hospital accommodation for same at 622 Spadina Ave., Toronto.

Dr. S. M. Hay, of Toronto, will resume practice early in July on his return from his trip to Great Britain and the Continent. While away he visited the clinics at Florence, Berne, Paris, London, Leeds and Liverpool.

It will be remembered that Dr. Walter McKeown, of Toronto, went to Europe last year with his son. The boy unfortunately contracted typhoid fever in Brussels, Belgium. After his recovery Dr. McKeown brought his son home. About the middle of May Dr. McKeown, accompanied by his son, left for Europe with the intention of completing the trip which they had mapped out for last year.

Dr. W. P. Caven, of Toronto, underwent an operation for appendicitis in the latter part of May, and the result was a speedy and satisfactory recovery. He had intended to take his family over to Scotland in the month of June, but after his operation he decided to postpone his European trip for another year. He and his family left for their summer residence near Bobcaygeon June 24th.

Obituary

THOMAS HENRY STARK, M.D.

We have to report with very deep regret the sudden death of Dr. T. H. Stark, 21 Carlton Street, Toronto, which occurred at his late residence, June 9th, from angina pectoris. We understand that he had one attack of angina which was somewhat serious about a year ago, but it was supposed by his friends that there was no serious trouble, as he enjoyed comparatively good health during the past year. He had another seizure, however, on the evening of June 8th, and one on June 9th, which caused his death within a few minutes.

Dr. Stark was educated in Trinity Medical College and graduated M.D. from Trinity University in 1882. He spent the year 1881-82 in the Toronto General Hospital, acting as one of the Interne physicians. He then commenced general practice in Toronto, and remained in harness almost continuously up to the day of his death. Although quiet and reserved he had an unusual kindly manner, and was greatly loved by his patients and intimate friends in the profession.

Book Reviews

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles by leading members of the medical profession throughout the world. Edited by HENRY W. CATTELL, A.M., M.D., Philadelphia. Vols. III. and IV., Twenty-second Series. 1912.

The Clinics are too well known to need any braying of trumpets. These two volumes, which were delayed in transit to the editorial desk, are full of most interesting articles, for the greater part articles out of the general run, and full of thought to the practising physician. For instance, there is a discussion of a new theory of the causation of sex and its practical application to the human family. This alone is worth the price of the book.

The Clinics come either in cloth or half leather, so that they may be an ornament to the doctor's shelf, where he will place them as works of reference.

Progressive Medicine. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by HOBART A. HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, assisted by L. F. APPLEMAN, M.D., Instructor in Therapeutics, Jefferson Medical College, March 1, 1913. Lea & Febiger, Philadelphia and New York. \$6.00 per annum.

This volume includes surgery of the head, neck and thorax; infectious diseases; diseases of children; rhinology, laryngology and otology. No other work comes to our desk that receives such a hearty welcome. In 350 pages it contains an epitome of all the advances that have been made during the past year. It says what is necessary in a concise way, and leaves nothing out which should be in. *Progressive medicine* compares very favorably with similar works in German, and has no equal in English.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles on surgery, treatment, medicine, neurology, pediatrics, obstetrics, gynecology, orthopedics, pathology, dermatology, ophthalmology, otology, rhinology and laryngology and other topics of interest to students and practitioners, by leading members of

the medical profession throughout the world. Edited by HENRY W. CATTELL, A.M., M.D., Philadelphia. Vol. I. 23rd series. 1913. Philadelphia and London. J. B. Lippincott Company.

The articles in this volume are specially good, covering a wide range of interesting subjects, handled by masters in their particular specialty. The "Clinics" have been noted for nearly a quarter of a century for the excellency of their material, and time makes no difference to them in that particular.

The Difficulties and Emergencies of Obstetric Practice. By COMYNS BERKLEY, M.A., M.D., B.C. Cantab., F.R.C.P. Lond., Obstetric and Gynaecological Surgeon to the Middlesex Hospital, etc., and VICTOR BONNE, M.S. M.D., B.Sc. Lond., F.R.C.S. Eng., M.R.C.P. Lond., Associate Obstetric and Gynaecological Surgeon of the Middlesex Hospital, etc., with 280 illustrations. Toronto: The MacMillan Company of Canada. 1913.

This work has been prepared for the obstetrician and general practitioner, and deals with the difficulties and emergencies that attend obstetric practice. Among the subjects considered are the following: diseases of pregnancy, diseases of the intestinal tract, urinary tract, peritoneum, skin, thyroid, nervous system, heart and respiratory tract, infections, fevers, all varieties of hemorrhage, complications of labour, fever of the puerperal period, diseases of the breast, abnormal pregnancy, anaesthesia, obstetric operations, diseases and injuries of the new born babe, and artificial feeding of infants. The anatomy of the pelvis, the management of normal pregnancy, labor and the puerperum are purposely omitted, and as a consequence the book is hardly suitable for the ordinary student in his early studies; but it is admirably adapted for the needs of the final student and the general practitioner. Although the work covers much ground the book is not unduly large, containing only 760 pages (not including the index), the pages being middle size and the type large and very clear. The teaching is largely clinical in character, and the style of writing is singularly concise and clear. There is no padding, and yet nothing of importance is omitted. We take pleasure in saying in addition that the publishers have done their work in a manner that could scarcely be excelled. We can recommend the work with much confidence as a most admirable and useful book for the general practitioner.

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In addition to medicinal and other therapeutic measures.

"What wholesome combination of the four essential food elements—protein, carbohydrates, fat and salts—can be prescribed which is easy of assimilation and, hence, will save the patient unnecessary digestive and metabolic energy?"

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Among the advantages in Grape-Nuts is the fact that it helps to make other associated foods more easily absorbed, especially the carbohydrates of every kind, on account of the apparent "inducement" it seems to hold out to the enzymes of the intestinal tract, to assume their amylolytic function, with promptness and thoroughness.

The small amount of natural fat in Grape-Nuts allows for the gauging of this element by modifying the milk, always used with the food, as to its percentage of cream.

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Miscellaneous.

Pyelonephritis in Pregnancy

Treatment. 1. Rest in bed. 2. Elevation of affected kidney. 3. Morphine or codeine for pain. 4. Early catharsis by calomel and salines. 5. Ice-cap to loin. 6. Cream of tartar water internally. 7. Diet: Milk, skimmed if much digestive disturbance, or lactone buttermilk. 8. Hexamethylenamine, gr. v-x (0.3-0.6 Gm.) with lithium or potassium citrate, gr. x, at three-or four-hour intervals. 9. Replace last after forty-eight hours by sodium benzoate, gr. x every two hours, until patient complains of burning in kidney region, when first combination should be resumed. 10. Potassium iodide or phenyl salicylate might also be used. 11. Argyrol (25 per cent.), 3j (4 c.c.), instilled into pelvis in cases persisting more than ten days. 12. In colon bacillus infections, autogenous vaccines, 30 to 50 million once a week, have been successful. 13. Induction of labor, in persistent cases late in pregnancy. 14. Nephrotomy and drainage where definite signs of surgical kidney present. O'Connor.—*Monthly Cyclopedia*.

The Significance of the Expulsion of Meconium During Labor

Altenbach (*Jour. des Praticiens*). In breech presentations during the period of expulsion the pressure on the abdomen of the child usually results in the mechanical expulsion of meconium, and the phenomenon by itself is devoid of any sinister significance. In all other presentations the appearance of meconium in the liquor amnii is an indication that the life of the child is in danger. The opinion that the prognosis as regards the life of the child is good so long as the liquor amnii retains its normal opalescent appearance is supported by the records of over 45,000 labors collected at the Clinique Baudelocque during the last twenty years. A study of these shows that in the great majority of cases when the child has died or its life been seriously threatened during labor the meconium was expelled. There was only one exception to this rule: the expulsion of meconium was absent when the death of the child was due to severe hæmorrhage during labor from such causes as retro-placental hæmorrhage or bleeding caused by the abnormal situation of the placenta or its premature detachment. Even this exception is not invariable as in 10 out of 50 cases of placenta prævia, and 3 out of 12 cases of retroplacental hæmorrhage, expulsion of me-

EATON'S



SILENT *Waverley* ELECTRIC

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See how admirably the Silent Waverley Electric Brougham fills the requirements of the City Doctor:—

IT TAKES the road immediately (no cranking), and is always ready for an emergency call.
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CLOSED IN against the roughest weather, the operator has a full view ahead and complete command of the road.

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It is interesting to note that the makers of this car, the Waverley Company of Indianapolis, have had sixteen seasons of electric carriage building, and the 1912 car is the product of the accumulated experience of these years.

See the Waverley at the Garage, Albert Street, or write for particulars.

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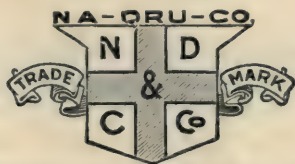
onium was observed. It is probable that when the child dies without the expulsion of meconium the hemorrhage is sufficiently severe to cause death rapidly, but observation of the fetal heart-sounds prove that rapid death does not always occur in these circumstances, which may account for the apparent exceptions.—*Med. Review.*

A Royal Patient and Medical Controversy

The death of Professor Fritz von Bramann, director of Hallé University Surgical Laboratory, removes the famous operator who attended the Emperor Frederick III. when Crown Prince, and whose operation on his august patient in February, 1888, led to such embittered medical controversy. The English physician in attendance on the Prince was Sir Morell Mackenzie, who replied to the medical account of the illness which his German colleagues issued after the patient's death in a popular pamphlet. The performance of tracheotomy becoming inevitable Professor von Bergmann was appointed to undertake it, but in case of sudden suffocation his assistant, Dr. Bramann, remained at hand. Eventually called on at short notice to open the trachea, he insisted on waiting, since he had been kept from seeing the patient for several days previously, and eventually performed the operation successfully, although Sir Morell Mackenzie criticized as unskilful his insertion of the tube. The patient was suffering from cancer of the throat, and the German view has always been that the operation secured immediate if temporary relief.—*The Hospital.*

Spinal Anaesthesia in Childhood

In the *West London Medical Journal* Mr. Tyrrell Gray pleads strongly for spinal anaesthesia in operations for the acute peritoneal affections of children. He holds that in adults spinal anaesthesia is advisable in very rare instances alone; but that it is imperatively called for when dealing with an "acute abdomen" in a young subject. The considerations which lead him to this pronouncement are somewhat complicated, and depend upon the relations of "nerve-blocking" to shock and "shock-value." Mr. Gray does not enter into the merits of the Crile-Henderson controversy as to the causation of shock. But his practice is evidently nearer to that of Henderson than of Crile; for he condemns vaso-constrictors and praises strychnine very highly. The



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although their sale has been phenomenal are really no better than other National Fluid Extracts, it is because they are very important lines and have never failed to respond in anxious moments, that gives them the high place in the estimation of the profession. Every other line is prepared with the same attention to detail, by the same modern methods and with the same pharmaceutical skill, as the three important staples above mentioned, and the full line of National Fluid Extracts are as dependable, to the very limit of the therapeutic value of the crude drugs employed.

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latter drug is recommended for constant employment on the ground that it "reopens conduction across synapses." This may or may not be the case, and must be exceedingly difficult to prove; we would rather see some more practical explanation offered, or, better still, none at all in the present imperfect state of knowledge. The true criterion is: Does strychnine do good or not? It may be aded that he gives morphine with atropine freely, and does not attempt to move the bowels at all, preferring to leave them to act naturally.—*The Hospital*.

The Lethal Dose of Corrosive Sublimate

Almost always when a physician is called to testify in a court of law in a case of poisoning, he is asked by one of the attorneys, or by the judge, "What is the lethal or fatal dose of the poison under consideration?" and not infrequently the legal mind finds it difficult to understand why the physician cannot name a definite or fixed amount of a well-known toxic agent.

There are, of course, many reasons for this, aside from the difference in susceptibility of the individual. Much depends upon the rapidity with which the absorption of the drug has taken place, and this, in turn, depends upon the activity of the circulation, the competency of the stomach to perform its functions, and whether the poison is diluted by considerable quantities of food and drink. For this reason, all those who are acquainted with toxicological literature know that the lethal dose of death-dealing drugs must vary in each individual case, in some instances an amount scarcely larger than that sometimes employed for medicinal purposes acting as a poison, and in other instances very large doses being taken without the production of very dangerous symptoms.

An illustration of this is afforded by a report made to the *British Medical Journal* of January 18, 1913, by Fuller, who records the case of a man eighty-five years of age, who swallowed by mistake $8\frac{3}{4}$ grains of bichloride of mercury. The patient at once recognized his error and drank a tumblerful of barley water. Seen by his physician half an hour later, he was given white of egg, and when he retched he brought up blue-stained mucus from the indigo in the bichloride tablet. The stomach tube was then passed and the stomach washed out with large quantities of albumen-water and milk and water. There was an urgent desire for the bowels to move, but very little more than mucus was passed. The patient became extremely collapsed, was

Overwhelming Clinical Evidence

SHOWS that Antiphlogistine, when liberally applied in inflammatory conditions, often changes a threatened failure to a success, and the fact is well attested by unimpeachable authority. Employ Antiphlogistine in your next case and prove it for yourself.



Whether the case be infective, as in Insect Bites, Cuts or Wounds; traumatic, such as Sprains or Bruises; deep, as in Peritoneal, Pleural or Bronchial involvements; superficial, such as Finger Infections, Boils, Carbuncles, etc., ANTIPHLOGISTINE, applied thick and hot, stimulates the circulation, removes the tension, relieves the pain and other symptoms which are manifested in

INFLAMMATION

cold and pallid, and the pulse was almost imperceptible. Strychnine was given hypodermically and milk and brandy by the mouth. The next morning he was somewhat better, but was still in a very critical condition, and for several days the bowels continued to be very irritable, but his general condition improved. We are told that after a slow convalescence, he quite recovered from the effects of the poison. Fuller points out that while other cases have been recorded in which recovery has followed an even larger dose, nevertheless an instance is reported in *The British Medical Journal* for 1905, Volume I., in which a dose of $2\frac{1}{2}$ grains was swallowed, and death ensued in three weeks from the diarrhœa which was induced. The fact that recovery took place in a man of 85 years is also of interest.—*The Therapeutic Gazette*.

Medicine, guarded too by preliminary impediments, and frightful meduse-heads of quackery, which deter many generous souls from entering, is one of the half-articulate professions, and does not much invite the ardent kinds of ambition. The intellect required for medicine might be wholly human, and indeed should by all rules be—the profession of the Human Healer being radically a sacred one and connected with the highest priesthood, or rather being itself the outcome and acme of all priesthoods, and divine conquests of intellect here below. As will appear one day, when men take off their old monastic and ecclesiastic spectacles, and look with eyes again! In essence the Physician's task is always heroic, eminently human; but in practice most unluckily at present we find it too become in good part *beaverish*; yielding a money-result alone. And what of it if it is not beaverish—does not that too go mainly to ingenious talking, publishing of yourself; ingratiating of yourself; a partly human exercise or waste of intellect, and alas a partly vulpine ditto—making the once sacred ἱατροὺς or Human Healer more impossible for us than ever!—Carlyle.

Modern Tuberculin Treatment

B. Möllers (*Berl. klin. Woch.*) analyzes the development of the tuberculin treatment of tuberculosis, and on the basis of his own experience, as well as of the opinions of other authors, expresses his views in regard to this question. He concludes that the most reliable method of treating tuberculosis is a com-

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bined "open air dietetic" and tuberculin treatment. Early cases, he states, may be treated by means of tuberculin as "out-patients," provided that the cases are carefully selected. The characteristic of the modern tuberculin treatment is the gradual, almost insensible, increase of dosage from small to large doses. General reactions should be avoided. He is convinced that the method of application is of greater importance than the choice of the variety of tuberculin in determining the effect of the treatment. He urges further that the treatment may never be carried out in a schematic manner, but that each case must be treated on its merits, special attention being paid to the course of the disease and to the degree of susceptibility to tuberculin. The tuberculin should be injected subcutaneously. He finds that a single course of tuberculin is not sufficient to effect a cure, but that many courses should be given, during the course of months, if not years. He pleads for the general use by medical practitioners of tuberculin, in order that a comprehensive effort may be made to cope with the disease.—*B. M. J.*

A Double Birth

The lay newspaper press has been much exercised over what it justly chronicles as "an extraordinary case of childbirth." The facts are that on February 24th the wife of a Barrow citizen gave birth to a boy, who is now alive and well; the baby was duly registered and maternity benefit paid under the Insurance Act. The household lapsed into its ordinary routine after the event, and all went well until April 4th, when a second child was born into the world by the same mother. This interval of six weeks might well puzzle the lay mind, which has learned to regard the laws of nature as immutable in the process of maternity. The explanation is, of course, simple from a scientific point of view. The particular uterus concerned has reverted to a more primitive structural arrangement whereby the organ has been divided more or less completely into two compartments, in each of which an embryo has been developed. Fertilization of the ovum has taken place at different periods, so that the two embryos arrived at foetal maturity one in advance of the other. In rare instances several months may elapse between such births. The Barrow Insurance Committee will have to settle a precedent in this case, which will probably result in the payment of a double maternity

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benefit to the mother. For the peace of mind of the National Insurance authorities it may be well to add that these double births are of rare occurrence.—*Medical Press and Circular*.

Medical Books

In Europe over 1,000 books on medicine and its allied sciences appeared last year. America, too, contributes her quota. It is obviously impossible to read anything like a fair share of such a mass, and it is questionable whether we would gain much if we did. Of course, there are great books that do give us new facts, but about ninety per cent. are restatements of old knowledge, and even this is often given us in a very faulty way. Of the original work two kinds are frequent and far from perfect. One is the enthusiast's work that will not bear investigation, and the other is the book issued by the popular teacher in the hope that it will be bought by the taught. It is ephemeral and dies with its author. On the whole, the journals probably best represent modern medical progress. The conclusions can be scrutinized and tested, and if found good may be then issued as a book. The journal pretends to nothing more than transience, while the book tries permanence and often fails. It is very likely that the pleasure of seeing one's name on a title page is really responsible for much of our perennial flood of books.—*Medical Press and Circular*.

"Rheumatoses" of Nasal Origin

The expression "rheumatoses" is sometimes heard in connection with minor affections which have a distinct rheumatic component, such as erythema nodosum, peliosis rheumatica, and chorea minor. The term serves to distinguish these from the frankly rheumatic affections of the synovial membranes, tendon sheaths, endocardium, etc. At a recent meeting of the Freiburg Medical Society (*Münchener medizinische Wochenschrift*), Senator, who has identified himself with the occasional endonasal origin of rheumatism *per se*, made the claim that the "rheumatoses" may exhibit a similar origin. A case of a child was cited in which the removal of adenoids was followed by chorea minor. It is known that this operation is not infrequently followed by infection. The author has seen one case analogous to the preceding. The recorded cases of rheumatic or at least rheumatoid infection, and of rheumatoses, which have been noted after ton-

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sillitis, sinusitis, and other spontaneous conditions, as well as after endonasal and endopharyngeal operations, while few in number, possess an unequivocal character which should form a datum for future studies.—*Medical Record*.

Treatment of Constipation in the Presence of Haemorrhoids

Paris Médical for August 10, 1912, advises that a mixture of washed sulphur, two parts, and honey, one part, be prescribed for use every morning in the dose of one teaspoonful. This may be given for a few consecutive days, then intermitted, and later begun again as a required. Sée is credited with a mixture of equal parts of washed sulphur, potassium bitartrate, and magnesium oxide, to be taken in the evening, before retiring, in doses of one teaspoonful in a little water.—*N. Y. Med. Journal*.

Sea-Bathing and Cardiovascular Lesions

During the summer season physicians are often consulted as to the wisdom of sea-bathing. Sometimes they are not consulted, but are called in to see patients who with a recollection of keen enjoyment of sea-bathing in early youth have attempted it when they were past the meridian of life, and have suffered from more or less severe symptoms in consequence. There can be no question that persons over fifty should resort to sea-bathing cautiously, particularly if the water is cold, and if there is present a condition of arteriocapillary fibrosis. In the presence of high blood-pressure sea-bathing is probably distinctly dangerous in direct proportion to the degree of disease in the heart and vessels. This is particularly true of surf-bathing, since not infrequently the patient has to resort to very active physical exercise, struggling to keep on his feet when buffeted by the surf. We are free to admit that it is remarkable how few accidents of a circulatory nature are met with at the great bathing resorts, but possibly this is due to the fact that with advancing years the bathers become cautious and avoid the water when it is unduly cold. On the other hand, we have known several instances in which sudden death from acute cardiac dilatation has occurred in persons who have had tired hearts induced by high blood-pressure while surf-bathing, and possibly some of the cases in which death has been ascribed primarily to drowning are in-

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stances of cardiac failure due to overburdening of the heart by contraction of the peripheral capillaries on the one hand, and by the arm and chest movements resorted to in swimming, the primary cause of death being circulatory, although the final cause may be drowning when the patient is in a condition of syncope. —*The Therapeutic Gazette*.

Treatment of Hepatic Colic

A. Robin, in *Paris Médical*, is credited with the following combination for use in hepatic colic in cases without vomiting:

Potassii bromidi	6 grammes
Morphinae hydrochloridi.....	
Extracti belladonnae foliorum	0.05 gramme
Ætheris	0.6 gramme
Syrupi	
Aquæ	20 grammes
Aquæ laurocerasi	10 grammes

M. Sig.: One tablespoonful half-hourly, up to three or four doses.

A few Notes on the Present-Day Methods of Administering Anaesthetics

MacKenzie publishes a paper with this title in the *Australasian Medical Gazette*. He gives a few "Don'ts" that he has picked up from hard experience:

Don't forget to have your gag and tongue forceps handy, but you only require them once in a hundred cases.

Don't dislocate your patient's jaw forward.

Don't touch the patient's cornea. The light reflex is more valuable.

Don't inject strychnine for impending collapse. It is useless unless you give practically poisonous doses; use pituitary extract or adrenalin instead.—*Therapeutic Gazette*.

The Canadian Practitioner and Review

Vol. XXXVIII. TORONTO, AUGUST, 1913. No. 8

Original Communications

DOES VACCINATION PROTECT?*

BY JAMES ROBERTS, M.D., MEDICAL OFFICER OF HEALTH,
HAMILTON.

My object in choosing this subject is to place before you some epidemiological evidence in support of vaccination derived from the observation of over two hundred cases of smallpox occurring in my own municipality during the past year.

Certainly I have no thought of attempting to precipitate at a conference of health officers a discussion on the efficacy of vaccination. To you who have had actual experience in handling smallpox outbreaks, and familiar also with the history of the disease in the days before Jenner, that would appear as ironical as to discuss the efficacy of antitoxin in diphtheria or to wrangle over the value of asepsis in surgery. Rather at the outset do I plead an utter surprise and astonishment at the anomalous position in which public health officials are finding themselves with increasing frequency whenever it becomes necessary to enforce strictly the provisions of the vaccination act.

It is not a flattering commentary on our publicity work of the past that within little more than 100 years after a discovery which has conquered one of the worst, if not the worst enemy the human race has ever known, an incredible number of persons, mostly of a decent, law-abiding sort, can be found who know little or nothing about what it is, what it has done, or what it is capable of doing. If ignorance were the only indictment that could be urged against the descendants of the genera-

* Read at the meeting of the Ontario Medical Health Officers' Association, Toronto, May 29th, 1913.

tion which produced Jenner, a certain amount of guilt could be charged to our own negligence and indifference, since to us as keepers of the legends of the healing art has been entrusted the education of the people. Unfortunately, however, not to ignorance alone, by any means, can we assign the opposition which confronts the health officer in almost every part of the country when attempting to efficiently control the spread of smallpox. The passive resistance to vaccination which manifests itself only in a tendency to be stubborn and dogmatic, may perhaps be attributed to lack of knowledge. Very frequently the opposition comes from persons showing a natural inclination to be obstinate. The majority of these become amenable to reason if it can be shown to them that by not being vaccinated they will be inconvenienced or will be at financial loss. If property owners show them that smallpox outbreaks cost money and raise the taxes, at once they become converts to vaccination. Persons of this class I am content to regard as misguided, if you like, rather than in a less charitable light. They are the seed bed in which are sown the prejudices and falsehoods which militate to the public detriment.

Concerning the attitude of the great body of thinking persons who constitute the backbone of the community, I am glad to be able to express here, after an experience of nearly eight years in active public health work, my sincere belief that when approached in the proper spirit they are easily convinced of the facts regarding vaccination.

With the anti-vaccinationist faddist and fanatic the case is altogether different. He is a crank on vaccination simply because he did not happen to become a crank on Christian Science or something equally preposterous. On the occurrence of smallpox in a town he immediately begins his campaign of misrepresentation. He endeavors to stir up disquiet, and alarm, by long columns in the press on the alleged dangers of vaccination. Forgetting that the health officer is a public servant paid to carry out the law, irrespective of his personal convictions or inclinations, Mr. Anti-Vaccinationist scarcely ever forgets to make his attacks on vaccination degenerate into personalities against that official. Such attacks are at times not only contemptible, but insulting. Occasionally these pseudo-scientists flood the mail bags and molest the front doors of respectable citizens with printed matter as truthful and reliable as the advertisements of Peruna or Wizard Oil. The health officer is pestered with anonymous communications. To his careful consider-

ation are submitted specifics for the cure of smallpox in which the principal ingredients range in potency from foxglove at one end of the pharmacopœia to sulphur and cream of tartar at the other. In my limited experience, I have received several anonymous letters respecting the danger of contracting loathsome diseases from vaccination, that were as distasteful as they were immoral.

One naturally shrinks from laying oneself open to a charge of indulging in diatribe, but to you, as medical men, it must be painfully apparent that the propagandism of the ever increasing "antis to scientific progress" constitutes more of a reason why thoughtful people should sit up and take notice, than do the diableries of the militant suffragettes. If the motives of those who truckle to the susceptibilities of the ignorant could always be discovered, they would be found in a great majority of instances to be ulterior. It becomes imperative, therefore, that experiences like those occurring recently in connection with smallpox outbreaks and resulting directly or indirectly in loss of time, loss of money, and suffering of many people, should be curtailed.

If we examine the arguments against vaccination as commonly put forward in the newspaper articles of those who affect to be convinced of the objectionable features of the practice, they will be found usually to bear reference to one or more of the following:

- (1) The Leicester and other recent epidemics in England.
- (2) The authority of certain statesmen, scientists, etc.
- (3) The report of the British Royal Commission.
- (4) The alleged effect of general sanitation on the spread and virulence of smallpox.
- (5) The dangers attendant on vaccination.

I shall confine my remarks to two only of the headings mentioned—the first and the last.

The facts in connection with the Leicester epidemic are as follows:

Two vaccinated children were attacked with smallpox, neither of whom died. One hundred and seven unvaccinated children of the same age period were attacked, of whom 15, or 14%, died. One hundred and ninety-seven vaccinated persons were attacked, of whom two died, or 1%. Fifty-one unvaccinated persons over 10 years of age were attacked, of whom 4, or nearly 8%, died.

In Sheffield, of 18,020 vaccinated persons of all ages living in infected houses, 4,151, or 23%, were attacked. Of 736 unvaccinated persons under the same conditions, 552, or 75%, were attacked. Of 4,493 vaccinated children under 10 in infected houses, 353, or about 8%, were attacked; of 263 unvaccinated children, 228, or almost 87%, were attacked. Ten out of 11 of the vaccinated children escaped; 7 out of 8 of the unvaccinated children took smallpox. Similar ratios were obtained from the epidemics of Dewsbury and Gloucester.

We leave these figures to the opponents of vaccination for such consolation as they may be able to derive from them.

There is no necessity, however, of hoisting the anti-vac. with his own petard by quoting for his benefit facts and figures from the records of health officials in European countries, when statistics are available from nearer home. In our own city during the year April 15th, 1912, to April 15th, 1913, 214 cases of smallpox in all were diagnosed, or discovered by, or reported to health officer. The disease was imported by some negroes who came from a small village in North Carolina, where there had been a considerable epidemic. From this source we had 11 cases. Owing to the circumstance of the families living within a narrow radius of one another and intermingling with persons only of their own race, we were able to prevent any further spread of the disease. Later on, about May 15th, a young woman on a visit to Hamilton from Norfolk County brought with her what was supposed to be or had been diagnosed chickenpox. The Health Department received notification of case number twelve of smallpox traceable to this suppositious case of chickenpox. Eleven people, none of whom were ever vaccinated, were infected in the family visited. A young man of twenty-five years had a fairly good scar and was the only one to escape. In the meantime the infected persons, having the eruption in mild form, had been following their usual occupation. Consequently it was rather difficult to get at all the contacts and effectually stamp out the disease. Cases kept cropping up from time to time until the middle of September, up to which date they numbered 43. We had none further until November 18th, a period of over two months, when the disease appeared in epidemic form, necessitating vaccination of school children and of store and factory employees in every section of the city. If, as appears rational, our sudden outburst of cases in the latter half of November and December was due to a group of missed and ambulatory cases during that period, you will easily realize

how mild was the type of the disease. This was not true in every instance, several of our patients having the eruption in a rather severe form, with considerable pitting and disfiguration.

Contrary to current acceptation in medical circles, epidemics of remarkable mildness and low mortality were well known and recognized both before the close of the 18th century and after. Jenner, in 1798, describes such an outbreak thus: "About seven years ago a species of smallpox spread through many of the towns and villages of this part of Gloucestershire. It was of so mild a nature that a fatal instance was scarcely ever heard of, and consequently so little dreaded by the lower orders of the community that they scrupled not to hold the same intercourse with each other as if no infectious disease had been present among them. I never saw nor heard of an instance of its being confluent. The most accurate manner, perhaps, in which I can convey an idea of it is by saying that had fifty individuals been taken promiscuously and infected by exposure to this contagion they would have had as mild and light a disease as if they had been inoculated with variolous matter in the usual way. The harmless manner in which it showed itself could not arise from any peculiarity either in the season or the weather, for I watched its progress upward of a year without perceiving any variation in its general appearance. I consider it, then, as a variety of smallpox."

In most of the epidemics throughout Canada and the United States during the past fifteen or twenty years smallpox has exhibited this mild form, and the question why this has been the case is one upon which authorities are not agreed.

With regard to age period of attack, in our 214 cases it may be worth while to point out that of persons under 1 year there were 4; from 1 to 5 years, 21; 5 to 10 years, 36; 10 to 20 years, 56; 20 to 30 years, 39; 30 to 40 years, 32; that in persons under five there were 25 cases; under ten 61; over ten years of age, 153 cases. The figures, therefore, confirm the fact of vaccination having changed the age incidence of smallpox entirely, since the practice of vaccination in childhood has become common. In Northnagles' *Encyclopædia* Dr. Immerman, of Basle, quotes the epidemic which occurred in the Prussian province of Posen to show the incidence of smallpox among children in the pre-vaccination days. In this epidemic out of 1,252 persons attacked with variola, 1,184, or nearly 95%, of the entire number were children under ten years of age. Other epidemics of the 18th century might be quoted in support of the above contention. As

with measles, the extreme contagiousness of the disease and the universal susceptibility to it led to the immunization for life of those who survived its ravages. In this connection the report of the British Royal Commission is most emphatic. It affirms that: "Smallpox, in pre-vaccination days a disease of infancy and childhood, has in the United Kingdom become a disease mostly of adults. The shifting of age incidence can only be accounted for by the custom of vaccination in infancy. In this day, when smallpox attacks young unvaccinated children it is found to be as virulent as, or even more virulent, than smallpox in the unvaccinated at higher ages. On the other hand, smallpox is practically unknown among well vaccinated children. When, quite exceptionally, such children have been attacked the disease has been so trivial in character as to be liable to escape recognition altogether."

As regards the sex of our cases, there was nothing worthy of note. The infection in nearly every instance began as a home infection or a school infection, so that the proportion of males and females was fairly even; 92 of the latter to 122 of the former.

One hundred and three families were infected, comprising 658 persons. Two patients were employees in the principal hotels; four were inmates of a city institution, and one a physician.

A careful examination of the total number of exposed persons showed 267 who had been vaccinated previous to the appearance of smallpox in the family. The operation had been done on almost the entire 267 at a very early age, and on less than a dozen had revaccination ever been performed. On the discovery of the first case in a household, all of the unprotected were vaccinated without delay, no matter in what stage of the disease the patient was found. On 164 out of 177 persons in these houses the operation was successful. Of the remaining 13, 3 were protected by reason of the fact that they had had smallpox and one by an attack of cowpox during her girlhood days on her father's farm.

I might here call attention to the experience of one of my assistants, a veterinary surgeon, who was with me and saw and examined a considerable percentage of all the persons affected. At 30 years of age, while engaged in the practice of his profession, he had contracted the bovine pox, with the results that all attempts at vaccination since that time have been unsuccessful. There is not a shadow of doubt in my own mind or his own as to his absolute immunity to the variolous disease. Upon careful enquiry by my assistants and myself I have been able to

find of the 207 patients under treatment in private residences and boarding houses only five who had ever been vaccinated or possessed the slightest indication of a scar. One of these was a man of forty, another a man of over seventy years. Three were women of between forty and fifty years. All five had been vaccinated when very young. With four of them the disease was so mild in form as to give scarcely any inconvenience. They were able to remain on their feet during its whole course, were never in danger, and even the premonitory symptoms were mild. In all other instances except the five mentioned the unvaccinated of the family were the only persons attacked. The vaccinated were the ones that did not become infected. There were six cases in one of our largest public schools and cases in several of the others. None of these children had ever been vaccinated. Their playmates at school, brothers, sisters and parents, where vaccinated, failed to take the disease. The vaccinated inmates of the houses where the infection entered proved to be immune; the unvaccinated were the victims. In less than $2\frac{1}{2}\%$ of the cases was this not true, and the experience of Dr. Bell, Provincial Inspector, is strongly corroborative of my own when he states that in four or five thousand cases of smallpox he has seen within the last eight years 5% is an exaggerated estimate of the number of patients vaccinated previous to taking the disease.

Of the cases already mentioned occurring in an institution for the care of the incurable, the initial one developed in a woman ten days after her arrival from the City Hospital. Two weeks subsequently a man of 56 in a small ward of seven or eight patients developed the disease, and in another two weeks his neighbor in the same ward came down, while an at first typical but finally abortive vaccine vesicle was running its course on his left arm on which appeared a fairly good scar from vaccination in childhood. At the same time a boy of fourteen years in a private ward some distance away had a characteristic but extremely scattered eruption on face, arms and legs. So that, although more than a score of persons, nearly all of them aged and not vaccinated since childhood, were exposed, one only, a man over 70, was attacked with smallpox because of his immunity being low or absent, as evidenced by his susceptibility to the vaccine disease. The three unvaccinated persons were attacked with variola, one of them in severe form. With a single exception, on not one of the old people on whom vaccination had never been performed since childhood was the operation successful. This was not only a surprise to my expectations, but to my for-

mer belief in the length of immunity conferred by a primary vaccination in early life.

One other circumstance will suffice to conclude my observations in regard to this series of cases, although others might be cited both interesting and instructive. Early in December a young man of 16 years, having smallpox in mild form, called at the office of Dr. X. He was examined by the doctor's assistant, prescribed for and sent home. I was notified the next day, and quarantined the house as usual. Our young confrere, who had never been vaccinated and still neglected the precaution, had at the end of a two weeks' incubation period a rather impressive demonstration. I fancy, of the fact that not only is smallpox an extremely contagious disease, but is also no respecter of persons, and also that a degree in medicine confers no special immunity. About one-half, I think, of the one hundred practitioners in Hamilton had the opportunity of seeing smallpox in various stages. The one unvaccinated doctor in the city of all those who came in contact with the disease was the only doctor to take the disease himself.

The few scraps of evidence presented in the preceding paragraphs are scarcely sufficient to arouse even the curiosity of those familiar with the behavior of smallpox. To the ordinary mind the facts are sufficient to convince that vaccination does protect against smallpox and may be made to confer an absolute immunity.

As to the question of danger from vaccination, we have only to reply in the words of the British Royal Commission to which the opponents of vaccination are so fond of calling attention: "As careful examination of the facts which have been brought under our notice has enabled us to arrive at the conclusion that, although some of the dangers said to attend vaccination are undoubtedly real and not inconsiderable in gross amount, yet, when considered in relation to the extent of vaccination work done, they are insignificant."

All information gathered from the thousands of vaccinations performed in Hamilton during the past winter showed the entire number to be wanting in serious after-effects and fatal to the contentions of the anti-vaccinationists that the practice is productive of harmful or even untoward results.

As intended at the beginning, this paper has been merely a resume of a mild and comparatively small outbreak. It would be trespassing on your time and patience to present extracts from the startling testimony of what vaccination has accom-

plished as given in the standard works on the subject. "The very success of vaccination has made us forget its achievements. I have the greatest repugnance to entering on a newspaper controversy by way of justifying any action taken by the Health Department during an epidemic of smallpox. The Health Officer who stoops to do this wastes valuable time and weakens his position in the eyes of the citizens. It would be unfortunate, however, if by a bovine stolidity and indifference or a dignified silence we allowed the laity to become possessed of the idea that there is even a vestige of truth in the mass of junk printed and circulated against vaccination by its detractors. On the contrary, I maintain it to be the duty of Boards of Health, Local and Provincial, and of medical men who, in the words of Dr. McVeil, "know the value of vaccination, who understand the danger against which it protects, and who are satisfied of the all but complete harmlessness of the operation to teach their ignorant and misinformed neighbors what is in fact the truth about vaccination—the truth as demonstrated to Parliament, the truth as learned by ever-growing experience of men who give their lives to learning it, the truth about a duty which cannot be neglected, except at the price of indefinite suffering and loss of life."

TUBERCULOSIS NURSING IN ONTARIO *

By MISS EUNICE H. DYKE,

Superintendent of Public Health Nurses, Toronto.

Before planning this paper, I wrote to the Medical Officers of Health of the larger Ontario cities, asking for information regarding their tuberculosis visiting nurses. In every case I was referred to a voluntary agency for information, from which fact I conclude that the Medical Officers of Health in Ontario have not yet appreciated the value of the Public Health Nurse as an assistant. It, therefore, becomes necessary to place before you a few of the results of the past two years' work of the Division of Tuberculosis in Toronto. As this work has been along preventive lines, and deals with a disease which kills at long range, it is impossible to demonstrate now any unusual reduction in the death rate.

The following conclusions regarding the control of tuberculosis in Toronto are drawn from a study of the 2,272 patients visited and recorded by the Public Health Nurses during the past two years:

1. A satisfactory reduction in the death rate will follow increased vigilance on the part of the immigration authorities. The nationality has been recorded in 351 of the deaths occurring amongst patients visited by our nurses. (The number of deaths in which the nationality was not recorded is 107.) Of the 351 cases, 43 were foreign, and 154 were from Great Britain. Less than 44 per cent. were Canadian. According to the figures of the Dominion Immigration branch in Toronto, about 23,000 immigrants settled in Toronto last year and about 90,000 in Ontario. Our experience has been that many of these families come to Canada on the advice of a physician, and that the visiting nurse is the one in the best position to discover these facts.
2. Close co-operation between the private physician and the Department of Health is essential to the control of tuberculosis. The dispensary watches many needy patients, maintains a standard of clinical diagnosis, and undoubtedly provides excellent study material for students, but it cannot reach the tuberculosis home. Of the 2,272 cases recorded in Toronto—a number which

* Read at the meeting of the Ontario Health Officers' Association, Toronto, May 30th, 1913.

includes all patients attending dispensaries and only an unknown percentage of physicians' cases—97 had no medical supervision, 1,019 were at some time under the supervision of dispensaries, and 1,156 were under the supervision of private physicians throughout the entire illness. Most dispensary patients are at some time treated by the regular practitioner. In addition to these needy homes, physicians have recorded 309 patients not requiring Health Department assistance, and 99 such cases have become known in other ways. In Toronto most of the tuberculosis, even in the homes of the poor, has been handled by the private physician, and the Public Health Nurses have appreciated the fact that they have been so frequently asked to assist in the management of the cases.

3. The sanitarium, though a powerful educative factor in the tuberculosis campaign, cannot become the organizing centre. All sanitarium cases are recorded by the Department, but of the 2,272 patients visited by the nurses, only 781 had the advantage of sanitarium care, and that for an average of about three months. The majority of these patients were known to the Department previous to admission, and all were under its supervision after discharge.

4. Notification of tuberculosis can be accomplished only by persistent watchfulness on the part of the Public Health Nurse. Previous to May, 1911, when the nursing work was organized, three physicians had reported cases. In May, 1913, 281 physicians have reported 1,202 cases, with 102 duplicates. The classification is as follows:

Advanced	361
Moderately advanced	449
Incipient	283
Not classified	190
Arrested	21
Reported for supervision	893
No supervision necessary	309
Reported by physicians	870
Reported by dispensaries	332

One hundred and thirty-five physicians who are known to have treated positive pulmonary cases have not yet reported one case. Eight hundred and sixty-eight cases have been reported first by nurses and others not qualified to make a diagnosis. One hundred and thirty-one of these cases were later reported by physicians, and three hundred and forty-four are still awaiting diagnosis.

5. The unit in health work is the family rather than the individual. The agent best capable of focusing all forms of medical and social work upon the tuberculosis home, and so preventing the development of contact cases, is the visiting nurse working under the Medical Officer of Health. The number of families at present under the supervision of the Division of Tuberculosis in Toronto is about 1,200. A few of the patients have not yet consented to medical supervision, and many are not yet registered. We hope they will never reach a stage where a diagnosis will be possible. The nurse working under a voluntary agency can visit only those patients seeking dispensary aid.

6. If the work of a Department of Health repressed the voluntary agencies, it is doubtful whether it would be of permanent value. The story of the past two years in Toronto indicates that voluntary work is not repressed.

May, 1911, showed:

Sanitarium accommodation for Toronto patients.....	153
Island Preventorium	25
Dispensaries—Three clinics a week with an average attendance of about	6

May, 1913, showed:

Sanitarium accommodation for Toronto patients.....	270
Island Preventorium	50
Daughters of the Empire Preventorium	10
Forest School	100
Dispensaries—Six clinics a week with Department of Health	

Nurses in charge and with an average attendance of about 15.

Owing to the policy of the Department in regard to relief, it is impossible to state in figures the increase in the social and relief work. No effort has been made to organize special relief committees, in the belief that such agencies duplicate work, and as a rule do not accomplish the best constructive work. Every tuberculosis home presenting a social problem has been referred to agencies or individuals having a previous knowledge of the home. This is a phase of tuberculosis work in which the socially trained nurse is indispensable if the work is to be other than superficial.

To sum up our experiences in Toronto: The Department of Health must become the organizing centre in the tuberculosis campaign, because in the Public Health Nurse it has an agent capable of bringing about notification of tuberculosis and of securing the co-operation of the private physician, dispensary

and sanitarium, and able to utilize authority in the home when necessary or to secure the assistance of social and relief agencies.

Many authorities in Public Health administration, amongst them Dr. C. E. A. Winslow, Curator of Public Health, American Museum of Natural History, New York, and Professor M. Adelaide Nutting, Director Department of Nursing and Public Health, Teachers' College, Columbia University, have stated that the Public Health Nurse is the strategic point in all health campaigns. She carries on intensive educational work, co-ordinates the work of other agencies in order to solve the problem of the individual home, and daily, in the regular course of her work, secures data which, if properly recorded, are invaluable to health officers and legislators. If Ontario wishes the assistance of nurses in the field of preventive medicine, the Medical Officers of Health must go into the training schools of the Province and teach the superintendents and pupil nurses the need of "Health" nurses as well as "Sick" nurses, and train them to meet the need. Such training will naturally include courses in sanitation, food inspection, housing inspection, district nursing and charity organization.

Tuberculosis visiting nursing has been organized in the rural districts of Wisconsin, New York and Ohio, but in all these States the work of organization has been started by private philanthropy. It has remained for Nova Scotia to initiate organized rural nursing as a part of the provincial tuberculosis work. The proposed rural nursing under the National Red Cross in the United States seems to be a similar movement along broader health lines.

The principle of local sanatoria is generally accepted in Ontario along with local supervision, local educative campaigns and local relief, and the nurse is a part of all this work. The subject of the organization of tuberculosis nurses in Ontario is one which I ask this Association to consider thoughtfully as a means of securing efficient local work.

In Ontario, though I have been unable to secure definite information, I believe many nurses are doing tuberculosis visiting nursing under the Victorian Order, Anti-Tuberculosis Leagues, sanatoria and dispensaries. Private philanthropy has always pointed the way, but it should not be an obstacle to organization. In New York State the salaries of the co-operating nurses are paid by various local agencies, but supervision is maintained by the Committee on the Prevention of Tuberculosis, under the

State Charities Aid Association. Provincial organization and supervision in Ontario would secure uniform standards and records, provide for the transfer of a patient's record when he moves, and make it possible to take advantage of all available sanitarium accommodation. It is difficult to discuss the details of a Provincial organization with the slight knowledge I possess of rural visiting nursing. Imagination suggests, however, that even in the smaller towns a part at least of the nurse's salary could be paid from public funds, that she could be assigned an office and a regular office hour in a public health building, where messages might be received, and that record forms might be provided by the provincial organization. It is possible that the Public Health Nurse of the rural community need not specialize in tuberculosis, infant hygiene, and school nursing, as she has been compelled to do in cities, but that she may become a general assistant to the Medical Officer of Health in school and home inspection, helping him to reduce typhoid, tuberculosis and infant mortality, in some districts acting as truant officer and inspector for the Children's Aid Society.

The tuberculosis nurse must ultimately develop into the Public Health Nurse, since the conditions which prevent tuberculosis are the conditions which maintain health. The Public Health Nurse will remain when tuberculosis is a matter of history.

DISPOSAL OF DOMESTIC SEWAGE IN SUBURBAN AND RURAL AREAS*

ROBERT E. WODEHOUSE, M.D.,

Ontario Provincial M. O. H., District No. 7, Fort William, Ont.

This paper is intended to be a practical discussion of the above subject, from the point of view of a M. O. H., rather than a technical engineering treatise of the same. Generalities predominate in it, and interpretations of the scientific factors into ordinary parlance have been the desire of the writer.

Nature of Domestic Sewage.—Fuller's work, 1912, defines sewage as: the spent water supply of a community, together with those household wastes which are removed by water carriage in underground channels, supplemented in some instances by street washings and industrial wastes. Among other things, sewage, then, would contain: bath water, laundry water, dish and culinary water, human faeces and urine, fats, oils, soap and (if stable floor is of concrete, water tight, drained by a sewer) we have the animal urine and watery extracts of animal faeces, additional.

In suburban and rural areas, storm sewers very seldom enter into the disposal proposition, they being usually handled by ordinary underdraining, the effluent being discharged into larger district drains or creeks. House sewage and stable sewage are the items to be considered.

The chemical constitution of sewage might be appropriately represented in grams per capita daily as follows:

Oxygen (consumed, boiled 5 min.)	20 grams
Nitrogen (total)	16 grams
Chlorine	18 grams
Suspended matter (mineral 10 grams), (organic and volatile 50 grams), total	60 grams

These suggested proportions of constituents vary exceedingly in different houses, different localities, and even in the same place at different hours of the day. These chemical constituents are received from faeces in different stages of putrefaction and disintegration; from cooking and culinary wastes in the same different conditions; from chemicals derived from soaps, fats, etc., drained from kitchen and laundry sinks and from salts in the water used for household purposes or flushing of water closets.

*Read before Ontario Health Officers' Association at Toronto, May 31, 1913.

Another important constituent of sewage is bacteria—estimated as 320,000,000,000 passed per capita per day. These also vary in their number, variety and combined action.

When the day's or portion of a day's sewage is gathered in a receptacle it will consist of a fluid portion and an undissolved or solid portion. This solid portion (undissolved) goes to make up sludge and is held in suspension. Part of the suspended portion will float, part will sedimentate, and a portion will, being so finely divided as to refuse to answer to the practical action of sedimentation or floatation, decline to do either. Again, some of it will dissolve or go into true solution and a portion will form into colloidal matter. The finely divided portion referred to above has to be treated by chemical coagulators, forming colloidal matter, or be filtered out. Therefore suspended solids divide themselves into floating or scum solids, precipitating or sedimented solids, and the finely divided solids forming colloidal matter or solids unresponsive to subsidence.

The suspended matter consists principally of oils, fats and coagulated soaps. The fats and oils might be avoided by installing intercepting grease traps.

Modern Requirements in the Disposition of Domestic Sewage are that the sewage be conveyed from the different receptacles in the houses to the place of treatment or disposal, in passages, pipes or sewers, the gas or air in the sewers not being allowed to get access to the living air in the interior of the house. The sewage must finally be disposed of so that no nuisance from odor of same or injurious contamination of soil or water result. This injurious contamination of soil or water may assume the nature of a germ infection of the soil, or water (a) by bacteria contained in the sewage, (b) or originating in the same; (c) it may be an injurious effect on the land, as (1) souring of the soil, (2) saturating the same, making it undrainable and unfertile or non-productive; or it may be (d) a coloration of the water, (e) or a reduction of its available oxygen, thus starving out the fish or other contained life requiring the same. Finally, it may be (f) the production of ptomaine poisoning in the water, due to the action of putrefaction which has taken place in the sewage—the bacteria being dead, but the resulting toxins (1) in their bodies, (2) excreted by their bodies during life, as well as (3) those formed during the decomposition of the materials the bacteria were working on—forming the poison.

Methods and Success of Disposal of Domestic Sewage in Urban Areas.—The methods undertaken in urban areas to accomplish this ideal end result have been numerous in their prin-

ciple, crude in the early history of the work, and exceedingly highly developed in mechanism, cost and efficiency of late. A history of the engineering and hygienic work will not be undertaken. Suffice it to say that the modern high requirements as to the condition of the final end product, after treatment, meets the exacting demands just noted above. Thanks to the untiring efforts of the brainiest men of generations, following the professions of engineers and sanitarians, economic complete solutions of the difficulties are being solved. As noted above, the nature of domestic sewage varies so in volume, quantity of solids, and the consistency and chemical constitution of the same, that the greatest elasticity of the treatment plant is required. Geographical conditions also are so different that available, natural inclines of the surface formation of the earth, as well as suitable soil being conveniently located, are not always adapted to the most economical construction of a plant, choice of system, or conduct of same after operation is instituted.

The present-day knowledge of sewage disposal resolves itself practically into the reduction or oxidation of all the content which can be reduced or oxidized; the separation or extraction of all non-reducible solids contained, and the disposal of the resulting sludge and the liquid effluent. The non-reducible solids extracted are much in excess of what chemical analysis would prove to be non-reducible, because the portions whose reduction would be slow or retarded cannot be given the necessary time or enlarged equipment necessary to final complete end results, as cost would be prohibitive, and they can be safely handled with a practical expenditure as sludge.

This oxidation or reduction is not so much a straight chemical action as was at one time thought. Bacteria are now known to play a most important role in the change. They, in the first place, by their life, existence and multiplication, use up a great deal of the available oxygen, which might be utilized in the reduction of the sewage contents. The extent to which bacteria may consume this available oxygen is stated in the report of the work for 1894 at the Lawrence Experimental Station, in the annual report of the Massachusetts State Board of Health. In a Lawrence street sewer the sewage is fairly fresh and contains a substantial proportion of dissolved oxygen. As the sewage passes through a small pipe 4,000 feet to a receptacle at the treatment plant it is found in this short transit to have lost its available oxygen from bacterial action in the sewage.

In the second place, the life existence of the bacteria and their multiplication takes place, to a large extent, in the organic

solids, thus causing the reduction of these solids and an alteration in the constituents of the same. The gas formed by the bacteria in this action causes the solids to break up and disintegrate, giving other strains of bacteria an opportunity to work on the particles, forming the interior of the broken up solids, which were not exposed to them before. Bacteria are said to make up 20 to 30% of the solid matter of formed faeces, and 35 grams of formed faeces are passed daily per capita. All these are by no means living bacteria, nor are all the living bacteria contained pathogenic to man. A high percentage of them have been killed out by their own life, activities and secretions (autolysis).

It is, therefore, evident that in the treatment of sewage, that reduction of organic matter to a certain practical degree must be aimed at, accomplishing this by a combination of giving the bacteria an opportunity to economically assist, and at the same time providing sufficient oxygen for the reduction to be accomplished. Along with this, the non-reduced solids must be extracted; those which float extracted as much as possible by grease traps, or later gathered by baffle boards and bailed out of retention chambers. The finely divided solids refusing to answer to these methods must be extracted with the assistance of added chemicals, as colloidal matter, or filtered out.

The result of these steps in the treatment of sewage will be:

(1) The collection of grease in the intercepting traps. This is a small quantity of inoffensive matter not requiring discussion.

(2) The removal of the floating solids as scum. This is small in quantity and should be placed on the sludge drying beds.

(3) The sludge or sediment in bottom of retention chamber. This must be removed, part at a time, every few months to a drying bed, and burned after 24 to 36 hours' drying. It is non-objectionable in odor.

(4) A liquid effluent requiring further treatment and reduction, being still infective and dangerous to health.

A satisfactory method of handling the above-mentioned stages of treatment is by gathering the sewage to a central point, allowing same to pass into retaining chambers, called Imhoff tanks, which are two-storey chambers, acting simultaneously as sedimentation chambers and septic tanks or retention chambers to allow or aid bacterial action. They are built as follows: a long chamber 25 to 30 feet deep, the length being several times the breadth, either gained by rectangular construction or by properly partitioning off a cylinder (as was done at the Provincial experimental station). The idea is to have two chambers, one above the other, running the full length of the tank,

being separated by a trough-shaped false bottom, with an opening in the bottom angle of the trough. This opening is so constructed that the lip from the one side of the tank much overlaps the other on the bottom side. This gives a protected opening from top to bottom, being almost impermeable to expulsive forces directed straight upwards. Spacious vents are constructed leading from the upper angles of the roof of the bottom chamber to the open air above tank. The bottom of the lower tank is graded to points of depression, to facilitate the emptying of contents (sludge). Pipes with shut-off valves are attached to these points of depression. The effluent is poured in at one end of the upper chamber, below the high water level of the tank; it progresses along to the opposite end of the tank, being encountered by baffle boards, at upper surface and lower surface of the upper chamber. These retard the flow, aiding precipitation of solids and retaining the floating solids as scum, as well as gaining thorough mixing of the contents. The upper chamber forms an aerobic chamber, while the lower forms an anaerobic chamber. The decomposition of the precipitated solids progresses in the lower chamber. The gases formed gain vent through the vents referred to as leading from the uppermost angles of the roof of the lower chamber, the upheavals not causing the solids contained in the lower chamber to re-enter the upper chamber, owing to the overlapping of the lips of the trough. The weight of the fluids above tends to press the water out of the sludge at the bottom of lower tank, at the same time forbidding the escape from the centre of the sludge of the small particles of gas formed there. This all aids in the economical handling of the sludge. The sludge is removed, in portions not sufficient to deplete the lower chamber entirely of sludge, every one to six months, as size of plant, available labor and proper weather indicate. The sludge is placed on drying beds of crushed rock or other suitable material 12 inches deep. The sides and bottom of the beds are impervious, and the effluent is drained back to the retention chamber holding the effluent from the upper tank, about to be conveyed to the treatment beds. Sludge is very heavy owing to the water content, same being about 90%, a cubic yard weighing about 210 to 280 lbs. short of a ton.

The oils and fats are such negligible quantities as not to warrant discussion. They are not putrescible. The floating solids are bailed out from between the upper baffles at times and placed on the sludge drying beds. They are also immaterial in quantity.

The next stage in the treatment is the disposal of the effluent from the upper chamber of the tank and from the sludge drying bed. It requires further reduction to make it non-infectious, non-odorous and non-injurious. This requires aeration and submission to beds sown with bacteria. The methods of distributing the effluent to the beds, the style of bed used, and the material utilized have given rise to numerous methods for this final treatment.

The effluent may be treated on *broad irrigation beds, intermittent sand beds, contact beds, or percolating beds*. Broad irrigation beds necessitate considerable areas of suitable soil, of a pervious nature. The area to be used is underdrained, in the ordinary agricultural open-joint underdraining plan. The surface is then trenched in a shallow manner. The effluent is carried by feeders to these shallow trenches and allowed to flow into the trenches, in this way being spread over the land. Subsoil irrigation is also carried on in some places. Both areas are in some places cropped successfully. Intermittent sand beds are natural in some places and artificial in others. The principle is the same in all these beds. The effluent is distributed over the treatment area in different manners and passes down through varying necessary depths, for satisfactory action, and then collected up again in weeping tiles, as in the broad irrigation areas.

Contact beds are always artificial in construction. They are made up of large concrete walled and bottomed beds, 6 or more feet deep. The broken rock, slag, slate or other material is placed in the retaining basins, one bed to each basin. Sometimes the effluent is passed into these beds from bottom up, and at others more satisfactorily fed from the tops, as in the other beds.

Percolating beds are of the same construction as the last-mentioned, but differ in their action in that the effluent is fed more sparsely and more continuously. It is usually fed through some sprinkling device. This breaks up the effluent very finely, passing the fine particles through the air, and thus intimately exposing the particles to free oxygen. Being fed sparsely, it trickles down through the bed, being again exposed to free oxygen and to the bacteria sown surfaces of the stones. These bacteria are of strains which have distinct reducing properties. They also are antagonistic to the pathogenic bacteria contained in the effluent. The effluent emerging from these beds should be clear, odorless and nuisance free. If it is not it should be turned back through the beds again, or, if clear and odorless, it may require only chlorinating to insure death of all pathogenic bac-

teria. In some places the effluent from the Imhoff tank is chlorinated at once and not treated further. At this stage it is not odorless and may create a nuisance. Chlorinating, after all, is only attempted intimate oxidation.

Cost per Head for Installation and Maintenance.—The cost of installation depends on the system of treatment installed. The choice of system depends upon the closeness to centre of origin of sewage, that an available site, of proper soil, area, relative elevation to that of centre of origin of sewage, and value of land. Broad irrigation depends almost entirely on available suitable porous soil. The other three systems, being almost entirely artificial in construction, can be placed each of them in the same location, other things being favorable. The following table of comparative area required, cost of construction, cost of maintenance, etc., gives an approximate idea of the favorable features of the four systems. The basic figures for the calculations have been obtained from Kinnicutt, Winslow and Pratt's book on Sewage Disposal. The calculations are based on 100 gallons sewage per capita daily, average of five people to the household. The acreage per 1,000,000 gallons treated is based on a 156,000,000-gallon plant.

	System Installed	Broad Irrigation	Intermittent Contact Beds	Percolat- ing Beds
Acreage per 156,000,- 000 gals. treated..	13,000	1,200	300	80
Acreage per house- hold .....	.041666	.003846	.000961	.000256
.....	1/24	1/260	1/1040	1/3900
Cost of construction, per acre	\$1,500.00	\$5,000.00	\$35,000.00	\$50,000.00
Cost of construction, per household	\$62.50	\$19.23	\$33.65	\$12.82
Cost of maintenance per 1,000,000 gals. treated		\$24.91	\$20.03	\$15.50
Cost of maintenance per household per year (200,000 gals. per year)		\$4.98	\$4.00	\$3.10
Cost of treating efflu- ent per 1,000,000 gals.		\$2.43	\$2.73	\$1.50
Number of people ac- commodated 'per acre	500 to 1,000	1,200	5,000	10,000

Economic Solution of Disposition of Domestic Sewage—Adapted to a Single Building or Units of Buildings Numbering up to 100.—In view of the comparative data furnished in the above table, and having consideration of operation simplicity, as well as cheapness of land, it strikes the writer that *broad irrigation* is the most feasible method for treatment of units of 1 to 100 houses. The area of sand or open soil would be five acres. Even clay land, if handled properly, ashes and other suitable town refuse being worked into it, soon becomes quite efficient. (*Journal Royal Sanitary Inst.*, Feb., 1913.) Broad irrigation plants require scarcely any technical supervision. They have very few mishaps, any laborer being able to handle them year in and out. The effluent is fairly regular, usually being up to the standard suggested as necessary in the earlier part of the paper. The cropping of the area in use is practised, as also is the selling of sludge for fertilizer, but the profit is questionable. The entire equipment for the treatment would be:

1. Sewers from place of origin of the sewage to treatment plant.
2. Imhoff tank and retention chamber to hold effluent till automatically flushed onto beds.
3. Conveyors from retention chamber to different parts of beds.
4. Drying bed for sludge.
5. Broad irrigation beds.
6. Booster pump, if plant cannot be operated by gravity.

The area of drying beds required for drying sludge is 1 cubic foot for every five people contributing. Imhoff tanks cost approximately \$7,200.00 for every 1,000,000 gals. daily capacity, or \$7.20 a household. The cost of operation is one man per 30,000 people contributing, or, allowing \$1,000.00 a year salary, it amounts to 5c. per capita per day, or 25c. a household.

Reasons for Writer Choosing This Plan of Treatment.—This method of conveying the sewage to the Imhoff tank, drying the sludge for two days on drying beds and then burning as worked out by Dr. Amyot, conveying the effluent from drying beds and tank to broad irrigation beds, is favored:

1. Owing to its lack of complicating features of construction and maintenance.
2. By automatic dumping box for effluent, it requires only a daily visit for supervision, lasting a few minutes, to be made at the most convenient time to the operator, simply to open valves

to flood areas desired and shut off valves to areas sufficiently worked.

3. Sludge requires to be emptied only monthly, and in cold weather every six months.

4. All services for operation of plant necessary for population under discussion require only part time of the caretaker, he being able to choose the most suitable hour.

5. This makes it feasible in small towns to assign the care of the plant to the person usually responsible for all municipal duties and constable as well.

6. Construction and repair is simple and within the power of local labor and mechanics.

7. Its simplicity, cheapness of construction and maintenance make it feasible for the (financially) poorest community.

In concluding the writer desires to state that he has confined his remarks to water carriage of domestic sewage and treatment of same in this state. In his experience in small communities it has been his lot to find this system carried on by individual houses—with aid of gasoline pumps supplying water pressure from wells—and in some blocks—incinerator privies and Parkyte closets working. The water carriage is very little more expensive, and gives numerous other advantages in domestic economy, not the least to mention being fire protection. The water carriage is always most sanitary and nuisance free. It has, therefore, been deemed unnecessary to discuss non-water carried sewage, owing to the incompleteness, unsanitary working, usually nuisance creating, and seldom accommodating kitchen and laundry refuse water.

Fort William, March, 1913.

Selected Articles

"AS OTHERS SEE US"

A PRACTITIONER'S THOUGHTS UPON CONSULTANTS.

By "S."

The address, given at the 1911 Birmingham meeting of the British Medical Association, on "Mistakes," by Byrom Bramwell, of Edinburgh, is a most interesting record of some aspects of a consultant's work, drawn as it is from a vast clinical experience. The subject of the relative position of consultant and practitioner has for long interested the writer and afforded many occasions for comment, spoken or silent; and while it is with no little diffidence that one ventures to criticize the methods of those who may be at or near the top of the tree, the question should be of interest to both parties, and he ventures therefore to put down some of his thoughts. The writer would exclude from present consideration the extreme specialists, e.g., the ophthalmic surgeon, whose domain is so defined: the aurist, gynaecologist, dermatologist, etc., no doubt also have their special sphere, but this touches much more often the common ground of the practitioner's daily work. It is, however, with the consultant on *general* medical cases that the writer would specially deal, upon which a surgical opinion is more and more tending to be sought instead of a physician's.

Now the suggestion for a consultation may come from (a) the patient (or his friends), or (b) from the doctor in attendance. As regards the former group, it is unnecessary to make any classification, but consultations under the latter category may be conveniently grouped as follows:

- A. Manifestly hopeless cases—"to save any reflections."
- B. In certain cases to reassure a patient—or more often his relatives—whose confidence in the family doctor may have been temporarily shaken.
- C. To decide on the advisability of adopting a certain course of action—(a) by the practitioner himself, or (b) climatic, spa treatment, etc., and in this latter the choice of such.

- D. To back up the practitioner in a prognosis, or in enforcing a line of treatment the need for which the patient may be unable, or unwilling, to see.
- E. To safeguard the doctor in view of possible after-effects, e.g., in fractures, etc.
- F. To assist in making a diagnosis or in treatment in doubtful or difficult cases.

It is more particularly with some aspects of the consultant's action in this last group that the writer intended to deal, but his experiences in other cases have occasionally been not without interest.

The subject of fees is never a pleasant one to discuss, but the disproportion—especially in cases in group A.—between the fee of the man who gives a confirmatory opinion and the doctor who recognized the disease and its significance is sometimes rather striking. Called to a clerk (whom he knew to be rather fond of his glass) showing signs of commencing pneumonia, and finding marked glycosuria, the writer naturally gave a very grave prognosis. The man's wife—mainly to satisfy her husband's relatives—thought it advisable to get a consultant, who received for his opinion two guineas from the wife—bereft next day of her breadwinner—while the fees for the whole attendance of the writer came to less than £1. Now, taking the ordinary artisan's fee to his doctor at 2s. 6d., it is open to question if a consultant's opinion about him is ever worth sixteen times this, but certainly in such a case as the above the services of the consultant seem superabundantly rewarded. It may be replied, if an expert's opinion is wanted, it must be paid for at his valuation; the question, however, arises—Is it the opinion of an "expert" that is desirable or even the best in such cases?

Cases in group B. call for no comment, but in C. and D. the consultant's action has forcibly impressed the writer in various aspects. Of the awkward results of giving an opinion before important factors are laid before him by the family doctor two instances may be quoted. A girl, who had been left by her parents during her education in the medical charge of the writer, was eager to go to a Continental town for a year with a companion. As she had occasionally had very slight hæmoptysis—of uncertain origin—the writer suggested another opinion being got before sanctioning the plans, and arranged to meet her at the consultant's. On arrival at the appointed hour he found the girl already being examined, and on entering the consulting room he heard the patient being congratulated on the happy time

she would have in S——! When the consultant was informed, however, of the family history and other cognate factors in the case, such a different light was put on the matter that he had to intimate, with no little difficulty, a reversal of his previous view. In another case of pleural effusion, where again the consultant arrived before his time, so that no opportunity was given the writer to state what had been done, a most cheery prognosis was given to the father—"Tapping the chest will put him all right." It was only on leaving the house that the writer got the chance to state that the report on the sputum had not yet arrived, but his suspicions were brushed aside till the ensuing day, when the report announced tubercle bacilli in abundance. The man was dead in four months.

But apart from such instances of serious errors of judgment, the question arises—Is a consultant really the best qualified to decide as to the line of treatment suitable for a particular patient? Is it not too often the case that *his* opinion is one rather as to the treatment of the *disease* than the treatment of Mr. X., which is the real point at issue? Of the beneficial effects of the Alpine climate in lung diseases, or this spa for certain ailments, the consultant has undoubtedly more experience in one sense, viz., the knowledge that he has advised numerous cases to go to these places, "and they did very well." But does he hear personally, as the family doctor does, the patient's experiences of the treatment there, and thus learn some of the disadvantages which may almost outweigh the medicinal benefits the place holds out? If a consultant does visit a health resort to see its methods at first hand—and what proportion of them do so?—he is apt to have its merits displayed to him in a very roseate light. There is, moreover, the all-important factor of the patient's personality, of the peculiarities of which the family doctor is likely to be a better judge than the most expert stranger, and the real question, after all, is not what will do a tuberculous lung good, but will Egypt, or Davos, or any sanatorium be good for Mr. X.—and his family?

No doubt the opinion of the expert in the event of an unfavorable issue can always be referred to as a proof that "everything possible was done," but is a practitioner really acting in the best interests of his patient when he allows such important issues to pass out of his sphere and be decided by a stranger—maybe contrary to his own judgment? And yet for the family doctor to veto the recommendations of "the specialist" and face the consequence calls for greater courage than one can expect

so long as the public faith in the omniscience of "the specialist" is unenlightened.

As regards prognosis, too, how often does it happen that, where a guarded prognosis fails to make a due impression on the patient or his friends, the consultant, who is got to arbitrate, so to speak, gives to the relatives a very different verdict from that expressed to the doctor on leaving the house. Optimism is an excellent thing in medical work, as in life in general, but when an opinion is being paid for, "nothing but the truth" (if not always "the whole truth") should be told. Many a family doctor knows only too well the frequency with which he is asked after a consultation "Now what did Dr. Z. really think?" and the ever-recurring difficulty in reconciling the openly expressed opinion with the consultant's private remarks to the doctor. If, then, the consultant thinks the practitioner's prognosis is too grave, by all means let him say so, but if he agrees with it let him share the unpleasant task of giving bad tidings. In his attempts to soften the impending blow by such phrases as "He may pull round yet," etc., the consultant forgets how the patient's failure to recover may, by some people, be put down to the inability of the practitioner to realize the consultant's hopes, while the real opinion expressed to the doctor was more probably "He will do no good." The other method of avoiding an unpleasant task, in cases where the patient goes to the consultant's house, by saying "I'll write to your doctor," is also too familiar. There is, of course, no need for the patient to hear it, but why should the relatives not hear the consultant's opinion *directly* by written communication to them? The consultant's letter to the doctor cannot usually be shown, since matter may be referred to which even the relatives need not know.

Consultations in the cases in Group E cannot be adequately considered here; the writer would merely emphasize the fact that the position of a practitioner treating a fracture or joint-injury is becoming increasingly difficult in the light of Compensation Acts and the changing views of surgeons regarding the use of splints. The young doctor, who has seen, in his student's days, the constant use of X-rays for diagnosis of bone injuries, finds himself very soon "up against" a possible fracture case which he has to diagnose, treat, and answer for (in court, if need be) without the help his teacher put such reliance upon. The need for guarding one's self by an expert opinion is thus increasingly urgent. Even when the diagnosis is clear enough, there is the difficulty of treatment. The rosy opinions of hospi-

tal surgeons as to the splendid results of early movements and no splints are not borne out in the writer's experience of hospital-treated fractures. As with so many other hospital cases, the real ultimate condition of the patient is known, not to the surgeon, but to the practitioner, who has on his books, for weeks or months, fracture cases entered in the hospital records as "cured," though quite unable for work owing to disability of the parts.

Group F., comprising cases in which a consultant's opinion is sought with a view to aid in diagnosis or treatment, probably offers a larger field for criticism than any of the foregoing. Three points may be specially considered, viz.: Does the practitioner get the help from the consultant that he (and the patient who pays for it) has the right to expect; if not, where does the fault lie? Is a consultant the best fitted to give help in such cases?

As stated at the outset, it is consultations in *general medical cases* which are mainly under consideration, and taking the ordinary instance, where the consultation is held at the patient's house, the writer holds that in far too many cases the patient does not get—to put it briefly—his money's worth out of the consultant, nor does the practitioner get the aid he expects, and for this reason, viz., the consultant does not, in too large a proportion of instances, personally investigate the patient's condition with thoroughness. Every practitioner knows the inevitable question put to him when arranging for the consultation—"What is the case, doctor?" and even although information is given merely that it is a "chest case" or "abdominal," the open mind with which a new observer should approach a patient has thus already begun to be narrowed in outlook. Nor is this the worst. How constantly does one find that the history of the onset of the illness and the account of the symptoms are sought not from the patient, but from the doctor, with the inevitable result that the consultant approaches the patient prepared to look for certain conditions which had already impressed his family doctor. This may appear to be overstating the case, but the writer can scarcely recall an instance in which the consultant sought to obtain the evidence of the principal witness at first hand, as he would do when the patient goes to the consultant's house. It is extremely interesting, however, to note that in this latter instance he is acting, not as a "consultant" in the ordinary sense, but as a Harley Street general practitioner! (though with a grave disad-

vantage in certain cases to be referred to later). It is scarcely strange, therefore, that leading questions are so often heard put to the patient, and that the consultant's attention tends from the outset to be directed to the "chest" or the "abdomen," as the case may be, instead of the patient as a whole. The common practice of "having a talk with the doctor" or "hearing about your case" before seeing the patient is surely inadvisable; does it not suggest a judge listening privately to the views of counsel before hearing personally the evidence of the witnesses? And yet does it not far too frequently happen that statements and facts, gathered by and transmitted through the mind of the doctor, form a great bulk of the evidence on which is based the opinion of the consultant? Let the doctor be never so careful in his gathering together of the factors which seem important in a case, almost inevitably—albeit unconsciously—a winnowing process is at work in his mind, and some signs or symptoms—perchance quite slight—may be regarded as mere chaff because their bearing on *his* view of the ailment is not apparent, and therefore they are not reported to the consultant. The writer would plead earnestly for an altogether fresh unbiassed view of the patient's condition being obtained personally by the consultant—an inquisition, so to speak, of friends and patients, plus a thorough investigation of the patient's physical condition, and then—but not before—an exchange of views with the doctor, so as to arrive at an opinion. How different is the reality!

A little girl had suffered at intervals for several months from some kind of seizure of which the writer had endeavored to gather an impression by repeated questionings of the parents. Latterly the attacks became of a severer type, especially at night. Threadworms were present and energetically treated, but the real nature and cause of the attacks remaining doubtful, a consultation was sought. Instead of applying to the parents for a description of what they had seen, the consultant noted down carefully the account given by the doctor (who had never seen an attack!) then put some leading questions to the mother and child—apparently to corroborate the opinions formed—and made a brief examination of the patient's alimentary system and circulation.

Another girl, with a previous history of tuberculous abdominal glands, had been feverish and fretful for three weeks, the illness coming on suddenly. At the outset it looked like pneumonia, but the pain became more distinctly abdominal, and a

question of possible intestinal adhesions arising, a consultant was got, who obtained a complete anamnesis, but did not include the lungs in his examination, remarking that "she has no pneumonia now evidently"; but what of pulmonary tubercle, or empyema, etc.?

It may be said—Why not tell the consultant to do his own investigation?—a resolution which the writer has repeatedly formed but lacked the boldness to carry out; it is not so easy to speak thus to one's seniors. And yet can it be denied that a fresh enquiry into the patient's history, and an independent collation of the events and sequences which appear important to the new observer, followed by a complete investigation of the patient's present condition (in the light of his anamnesis) is nothing more than should be expected of an expert investigator, for whose services there is being paid a fee many times that of the family practitioner?

The writer may appear to be laying undue emphasis on this question of the absence of bias in the examination of the patient, but its vital importance was borne in on him years ago by a case in which a distinguished metropolitan consultant was concerned. The writer was called to see an old lady, *en route* to her country house, who had been brought back from the Riviera, the information being vouchsafed that her doctor there had diagnosed inoperable abdominal disease. This opinion had been confirmed by the consultant seen in passing through London, the friends being told of the hopeless outlook. Her treatment was practically being confined to opium and stimulants, and so definite had been the prognosis that the husband was found occupying himself with arrangements about her funeral service! The writer was inclined to take a different view of her gastrointestinal symptoms, but being an entire stranger and very young, he sought another consultant—also titled—who after a very thorough investigation informed the patient (whom he had long known personally) that there was no evidence to justify a hopeless prognosis. In her case deprivation of the opium and stimulants and the administration of stomacheic tonics produced such a change that in a few weeks she was able to resume her journey, and she lived for several years, surviving the husband who had so exercised himself as to the choice of her pall-bearers! From the London consultant's letter it was perfectly evident that he had accepted the diagnosis prepared for him in the letter from the Riviera physician.

It has been urged that the patient's confidence in his family doctor may be shaken as the result of an independent investigation by the consultant working along his own lines without any indication of the practitioner's opinion. No two doctors probably examine a case in quite the same way, and some patients might think that, because the consultant investigated this or that condition on which the practitioner laid no stress, their case had not been fully grasped by their own doctor; but unless the diagnosis is thereby altered no real harm should result if the consultant is tactful and if the patient is informed beforehand that his condition is to be investigated independently. The feeling (which undoubtedly frequently exists) that the diagnosis is an "arranged affair" would certainly be thus dispelled, and it is not impossible that the practitioner, with his more numerous observations and personal knowledge of his patient (even if less skilful) may be able to controvert the opinions of the consultant, who would thus be put more on his mettle in his examination—factors which are all to the benefit of the patient.

But another reason which not unfrequently makes a consultation less helpful than it ought to be is to be found—partly, at least—in the prevailing excessive specialization, so that the doctor has often difficulty in knowing whether to call in a specialist in gastric disorders or in blood examinations, etc. Instead of getting help from the more highly-paid (and presumably more highly-trained) expert, it has too often fallen to the writer's lot to hear expressed such opinions as "I would get his blood thoroughly examined," or "See if his discs show anything," while it was just to get light on such points (regarding which a family doctor may justifiably hesitate to put reliance on his own investigations) that the consultant's fee was worth paying.

Some years ago the writer one day had to get (at the friends' request) a consultant in two apparently gastro-intestinal cases, and he got a different man for each. The one made a thorough investigation, including blood counts and urinary investigations, while the other made elaborate enough inquiries and then, mentioning several possible diagnoses, said he would like a report on her blood before excluding pernicious anæmia. But what was he being paid for? When a report was obtained from another expert, and this diagnosis negatived, no doubt one step further was reached, but surely this is not the way to give help in diagnosis. One ought not, in discussing the management of a chronic Bright's disease case with a consulting physician, to re-

quire to call in an oculist to obtain prognostic help from the state of the fundus.

If it be said it is asking too much from the consulting physician to expect him to be a "general specialist," the answer can only be that this is just what he *must* be if he is to be of real service. The family practitioner has to be an all-round man—with a knowledge of obstetrics, gynæcology and surgery which is not asked from the consulting physician; the man who professes to aid him must therefore be a more expert "all-round" physician, with a knowledge of ophthalmoscope, microscope, etc., which the busier life—and smaller fees—of the G. P. give no opportunity to cultivate. If the consultant has not time himself to do the clinical investigations, he can afford to keep his assistant. Whether the usual training of a consultant is that best fitted to make him the practitioner's "helpmate" is a point to be considered, and the writer would specially seek to disassociate himself from being thought to have a profound trust in all the latest clinical apparatus. "Put not your trust in" methods in which "there is no stay" expresses a feeling shared by a very large body of practitioners, and it is largely because of the tendency of modern consultants to rely frequently upon results obtained by employing their favorite clinical "machine" on a patient (seen usually but once) that the practitioner has his faith in the consultant's help—and the efficacy of the apparatus—the more shaken. Looking to the enormous diversity of human constitutions, a diagnosis or prognosis which is "machine-made" is apt to denote an even less reliable product than in commerce.

What is desired in the consultant physician is an experienced clinical observer with greater skill in the use of more delicate tests or observations—chemical, bacteriological, etc.—than is possible in a family practitioner, but whose clinical knowledge should be based, not merely on experiences of *disease*, or of *cases*, but of *patients throughout their illness*, aye, and afterwards. This is the weak point in the purely hospital-plus-laboratory-trained man; even the keenest hospital physician does not—can not—know his "cases" really as patients. The writer, after years of both, knows only too well how indistinct and blurred an impression his hospital "cases" have ever made on his mind as compared with his private patients. Moreover, the hospital physician sees his "cases" entirely removed from their usual environment, and treats them with all the advantages afforded by a modern hospital. He finds "cases did very well" with this or

that remedy and therefore prescribes in consultation this line of treatment, too often forgetful of the facts (1) that, generally speaking, he does not know how his "case" ultimately got on at home afterwards—whether really better or under some other treatment, if alive at all; and (2) the patient he is now seeing is not having the hospital advantages.

Moreover, the "chief" seldom hears of the disadvantages of any line of treatment he is adopting; he does not learn—as the G. P. does on the patient's return—the detailed merits or demerits of the hospital potion. His earlier training, too, at the out-patients' department is, in this respect, far from satisfactory as a groundwork for therapeutic deduction. The out-patient at a hospital clinic is in a very different position from a sick man in his own house; in the brief weekly colloquy he may answer truthfully what he is asked, but how often is the *whole* truth left untold, and quite an erroneous impression formed on the physician's mind as to the action of the remedy. Without going so far as the poet in holding that

"The truth that is half a truth is ever the blackest of lies," it is assuredly an unsatisfactory basis for deduction; and unfortunately it is not only as regards his hospital cases—extern and intern—that the consultant is in ignorance as to their ultimate history, for the same applies, too often, to a large proportion of his cases seen in consultation. He does not even always notice their names, should they appear, in the obituary column, or, if he does, he is ignorant as to the real cause of death, and whether his diagnosis was correct or his treatment of any avail.

There is yet one other weak point in his clinical training—he does not see sufficiently often (or in their protean aspects) the milder cases of ailment which are often so difficult of definite diagnosis. The headaches, sore throats, "belly-aches," etc., which bulk so largely in a practitioner's work, are just the type of case which a hospital physician rarely sees, and yet it is just the prompt recognition of the abnormal sore throat or peculiar eruption that may mean the efficient treatment of the patient as well as the adoption of measures to combat the spread of an epidemic. As for "belly-aches," with the cry of "quickness in operation" ever ringing in his ears, the practitioner is put in a most difficult position; a real appendicitis is fairly easily diagnosed (though its degree of severity be doubtful), but not everyone—though some surgeons would almost have it so—with vomiting and abdominal pain require laparotomy. And yet from a consulting *physician* the practitioner will probably get

little help, since he almost invariably wishes a surgeon to share his responsibility; while if the surgeon, instead, has been promptly called in, the doctor may find himself getting the reply given by a leading surgeon to the effect that he did not think if he had been the practitioner he would regard the case as requiring operation at present, but since he had been called as surgeon and was on the spot, he would be taking a great responsibility in delaying operation, for if he did delay, and anything went wrong afterwards, he would be blamed. This guarding of the surgeon's reputation is certainly a new, if not convincing, reason for "early operation."

The writer has long thought that the practitioner, who by his immediate recognition of the perforated gastric ulcer—or the urgent appendicitis—plays no small part in saving the patient's life, fails to get his due share of the kudos—as most certainly he fails to get anything like a pecuniary recompense—corresponding to that accruing to the operator, whose success so largely depends upon the prompt diagnosis. In his day-book it may be entered by the G. P. as an "ordinary visit," but to the patient it is assuredly of super-ordinary money value.

As regards cases with abdominal symptoms in females, it is often most difficult for the practitioner to know whom to call in; the "pure physician" wishes to have gynæcological causes excluded for him, and *vice versa*. Some years ago the writer had a very sad instance of the results of this unhappy divorce—or "judicial (!) separation"—of the various specialized branches of the healing art. A young wife, apparently pregnant of her first child, was seized with pain and vomiting with pyrexia. The writer suspected appendicitis, but a gynæcologist was got to exclude any possibility of Fallopian mischief. He pronounced her normally pregnant and regarded her symptoms as due probably to faecal accumulation and ordered calomel. Next day she showed manifest symptoms of collapse as from some internal rupture and was removed to a surgical ward. Thence she was sent next morning, with a swinging temperature, "for observation" to a medical ward, where four days later a gynæcologist saw her, who diagnosed appendicitis, and on the surgeon being again called to her—he had never seen her during the "observation"—she was pronounced too hopeless for operation and died next day.

On another occasion, finding a "lump" low down in the abdomen of a married woman, the writer sought a gynæcologist's opinion. He regarded it as ovarian—probably malignant—and took her into a home for its removal. The writer will never for-

get his indignation when, on the abdomen being opened and the tumor discovered to be a carcinoma of the transverse colon, free from all adhesions, the operator said that as he did not do enterectomy he would leave it for future resection, but meanwhile would remove an ovary which was slightly cystic. The patient had severe pain for some weeks after, evidently peritonitic, for when she was removed later to a surgeon's care adhesions had occurred, involving the stomach, requiring gastrectomy to be combined with the enterectomy. Fortunately, she recovered, and is still, seven years after, well, a living witness to the disastrous results of abdominal specialism.

"These things ought not so to be," and though such extreme instances fortunately are rare, experiences of a similar but less severe character occur too often. Before leaving the subject of abdominal cases in females, the writer would allude to another point, viz., the difficulty of making a thorough investigation of a female patient's abdomen in a consulting room; so great is the difficulty that it may be doubted if an opinion based merely on this is very reliable. But still worse is treatment without investigation! The writer had been attending the husband in a household when he was one day asked by the wife—a stout elderly lady—to give her something for troublesome diarrhœa she had. As is so apt to happen when advice is sought by someone other than the patient really under treatment, a prescription was given after hearing an account of her symptoms, no examination of the abdomen being made. The writer forgot to enquire, on subsequent visits to the husband, as to the effect of his prescription, so the wife, thinking her doctor showed little interest in her symptoms, went to a consultant, whom she saw repeatedly. About two months later the writer was called late one night and found her in a half-dazed condition. She had been taking—as shown by her prescriptions—for several weeks various opiate remedies, but it transpired that no abdominal examination had been made. A large malignant mass in her colon was easily palpable, with secondary hepatic nodules, and she succumbed in two days. The writer's own initial oversight was, of course, culpable—if excusable; at least he had not the repeated opportunities afforded to the consultant—of which unfortunately he did not avail himself—of investigating the patient's condition. The case illustrates also the ignorance as to the real outcome of his "cases" seen by the consultant, but not followed up to the end.

In conclusion, the writer cannot help thinking that—excluding cases where special expert questions, ophthalmic, aural, etc., are at issue—unless a consultant can be obtained of the "all-round general specialist" type, the practitioner and patient will probably get most real help from consultation with an experienced practitioner. He quite realizes that the public do not think so, for great is the faith of the people in a "specialist," and it is his own share of the public that each practitioner has to satisfy. But is it not the duty of the practitioner to educate his patients in such a matter (of which he surely knows more than the laity can possibly do) rather than that he should follow his less competent judges in their blind faith in specialism? To do him justice, whatever the practitioner may think in private or say to his *confrères* regarding his medical "helpmate" and his remuneration, he does not "give away" the consultant, though he occasionally finds it difficult to play up to the highly-paid actor in the comedy.—*The Universal Medical Record*.

The Pseudocholecystitis of Typhoid

Bennecke, *Münchener med. Wochenschrift*, speaks of the occurrence of pain in the course of typhoid as relatively infrequent. Colicky pains over the gall bladder have led to operations for a cholecystitis which was not found to be present. Nor was there present a sub-phrenic abscess, the only other condition to be suspected. We have long been led to believe in the frequent occurrence of cholecystitis in typhoid, but this often pursues a latent course and is only found at autopsy. How shall we explain the pain in the false cases? The author concludes as follows: The colicky pains in the gall bladder area will be found to be unassociated with jaundice, nor is there any radiation of pains toward the spine. It will doubtless be found that their existence is due to accidental complications, as acute hepatitis or pleuritis. Either a second disease is present, or else the pains may be due to an anaphylaxis.—*N. Y. Medical Record*.

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, F. A. CLARKSON, BREFNEY
O'REILLY AND F. C. HARRISON.

Pituitary Extract in the Treatment of Haemoptysis

M. E. Rist reported at the Société Médicale des Hôpitaux that he had obtained excellent results in the treatment of hæmoptysis by means of the intravenous injection of pituitary extract. One-half cubic centimeter of the extract, representing one decigram of the fresh substance, is the dose injected by the author into a vein at the bend of the elbow. The hæmostatic action is generally immediate. A single injection suffices to arrest a profuse and rebellious pulmonary hæmorrhage. No other remedy has an effect as rapid and as lasting.—*N. Y. Medical Record*.

Pathology of Disseminated Sclerosis

L. Beriel, Lyon Medical, states that from the standpoints of etiology, symptomatology, and course, disseminated sclerosis (*sclerose en plaques*) can only with difficulty be conceived of as a definite, single disease. The unity of the disorder now depends chiefly upon its pathological substratum. For the production of the sclerotic plaques there is required merely a diffuse, sub-acute, nondegenerative myelitis or myeloencephalitis, upon which are engrafted localized vascular changes. These conditions having been supplied, the lesions are readily accounted for according to the general laws of the nutrition and evolution of tissues. The original myelitis does not depend upon a single, specific cause.—*N. Y. Med. Journal*.

Total Deafness Following a Dose of Quinine

M. J. Ballin reports the case of a girl sixteen years old who in the course of fifteen minutes took thirty grains of quinine. Two hours later she complained of an intense headache and

vere tinnitus in both ears. There was no disturbance in co-ordination, but she noticed a marked diminution in her hearing which steadily grew worse, so that perception for all sounds was completely lost by the following morning. She did not seek medical aid immediately, hoping that her lost function would in time re-establish itself. Finding that she remained deaf in both ears, she consulted different aurists with the hope that something could be done for her, and finally Professor Politzer, of Vienna, who, after a careful examination, pronounced her case hopeless.—*N. Y. Medical Record*.

Mechanical Means of Treating Circulatory Failure

We have noted with interest a recommendation made in the *Lancet-Clinic* of February 15, 1913, by Lilienstein, of Bad Nauheim, Germany. In cases of weakened heart action, particularly in cases of failure of compensation, he applies to each arm two hollow cuffs connected with a manometer, attaching a rubber bulb exactly as when a single cuff is employed for the purpose of estimating blood-pressure. A pressure of 80 to 100 mm. in both cuffs is established. This does not entirely obliterate the pulse at the wrist, but materially impedes the venous flow from each arm. Lilienstein asserts that cardiac dyspnea, oppression, and fulness of the head is promptly relieved by this method, and reports cases in support of this plan. The condition which he induces he describes by the term "phlebostasis." The duration of the application is usually two to three minutes two or three times a day. The method, of course, is not curative, but gives temporary relief, which when it occurs is most welcome. It does not in any way interfere with other methods of treatment by drugs or remedial measures other than drugs.—*The Therapeutic Gazette*.

Abnormal Diphtheritic Anginas

Petrucchi refers to Trousseau's theory, and then deals with Koplik's investigations. There are three classes of these anginas. The first includes patients who have simple sore throat, without general disturbance. One finds hyperæmia, with whitish points on the tonsils. These symptoms disappear in 24 or 48 hours. The bacilli of Löffler may be found several weeks after the recovery. In the second class are patients with fever, swell-

ing and redness of the tonsils, and with fibrinous exudate at the orifices of the crypts. There is no false membrane, but the sub-maxillary glands are enlarged. In the third class, the disease, after having presented the appearances as described in the second class, assumes the character of the infective septic diphtheria of Grancher. We find typical false membrane, which may be detached in pieces more or less easily. The mucous membrane is almost normal. Swelling of the glands may be absent or scarcely noticeable. These incontestable cases are met in epidemics by the side of malignant forms, and can be recognized only by bacteriological tests. Petrucci insists that such tests should be made in *all* forms of throat inflammation, both in the interest of the patients, and for prophylaxis. *Translated from Giornale Internazionale delle Scienze Mediche by Harley Smith.*

Acute Non-purulent Thyroiditis

Lublinski, *Berl. klin. Woch.*, reviews our recent knowledge of this subject. The condition may occur in an intact or a goitrous thyroid (strumitis) and the author confines himself chiefly to the first. The picture of this is almost unmistakable. The onset is marked by high fever, malaise, headache, and local, radiating pain perceived chiefly in the ear and occiput. Examination reveals local pain and tenderness. In some cases a tracheitis is associated and dysphagia is usually present. The sympathetic plexus is often involved so that remote symptoms like ptosis may develop. The acute attack lasts probably one week, after which the symptoms become less marked. A relapse may occur if a unilateral attack is followed by one on the other side. In searching for a cause of this affection rheumatism is mostly in evidence, and there appears to be a distinct rheumatic type associated with acute articular rheumatism. Influenza, especially during epidemics, causes many cases, and the same is true of measles, but in all statistics we cannot tell how much strumitis is represented. Thyroiditis is also seen now and then with the other infectious diseases. The majority of victims are women during the reproductive cycle. Strumitis is excluded chiefly by the absence of history of a goitrous enlargement, and by the superior dimensions. The course is very different, for strumitis often ends in suppuration. The prognosis of pure thyroiditis is good, no fatal cases having yet been recorded. This statement must be carefully qualified, for in the rheumatic type fatal endocarditis might co-exist. In certain cases Graves' dis-

ease appears as a sequela. Life may seem threatened in certain cases of tracheal compression, and a resection may be indicated, but it is hardly likely that strangulation would develop in such cases.—*N. Y. Med. Record.*

The Present Position of Uraemia

There are, writes Phillip (*Prager med. Wochenschrift*) two main theories as to the origin of uræmic convulsions. One view is that these are caused by the increase of bodies in the blood normally present, but which in health are excreted by the kidneys. The increase of these bodies, or of one of such bodies, in the blood determines the fit. The other theory is that uræmia is caused by poisons which do not normally arise in the body, but which are formed by the diseased kidneys. V. Jaksch and others generally found in uræmia an increase of urea, although in a few cases there was no such increase. He writes:—"There are two groups of cases: one where there is an increase of urea in the blood and the freezing point of the blood serum is consequently lowered; and a second group where there is no such increase and the freezing point is unchanged." Strauss concluded that it was generally derivatives of albumin metabolism which played the chief part in uræmia. Others also agree with Strauss that in this condition there is a large amount of residual nitrogen as a rule. But while urea and residual nitrogen were not invariably present in uræmia, an investigation of other products of retention was urgent. Beck and Heringham observed that calcium salts could give rise to uræmic-like convulsions, and Widal, as is well known, took to chlorium salts as the malefactors. But each of these views have been rejected by further experience as insufficient. So far none of the substances which can form urea has been proved to cause true uræmia. Nowadays it is held by some that these substances serve simply as the index of some hitherto unrecognized retained poison. Jaksch in his latest writings regards uræmia as an auto-intoxication; it is not necessary, he says, to look for a specific poison. All the tissues and the blood are impregnated with urinary salts, especially urea. (An attack is apparently determined when saturation point is reached, although v. Jaksch is not quoted to this effect. Recent work tends to abandon auto-intoxication in favor of the theory of inhibitory hormones. Auto-intoxication belongs to the old guard, which is, however, not even yet engaged in its rearguard action.)—*The Universal Medical Record.*

A New Diphtheria Antitoxin

In the *Deutsche med. Wochenschrift* Prof. Behring describes a new antitoxin which he states will confer immunity for a considerable time—for some months. The antitoxin is a mixture of diphtheria toxin and antitoxin in such proportion that the mixture produces no, or scarcely any, toxic effects upon guinea-pigs. The active protecting bodies take 23-25 days or more to be formed, which Schreiber points out is a disadvantage (same journal), for it may be that in this period there is a negative phase in which the individual is more susceptible to the disease. Behring describes one case, under Matthes, where a child who received 1-16 c.c. of the injection produced the record of over 600,000 antitoxin units. From the serum of this child another child was immunized—the first case of a homogenous serum being used. Homogenous immunity is of far longer duration than heterogenous, as Behring showed many years ago in animal experiments. Schreiber has injected the emulsion in forty patients and finds it absolutely innocuous; diphtheria antitoxin is invariably produced. He recommends either intravenous or intra muscular injections and the use of rather large doses. Zangemeister (same journal), from his own investigations, concludes that the mixture is especially advisable because the reaction is very mild and constant. In some cases immunity in the new-born was conferred by injecting the mothers before labor. There has been no time as yet to show clinically that inoculated persons do not become infected, and the immunity so far shown depends entirely, of course, upon the proved function of antitoxin. The dosage of the new antitoxin is not yet determined, and Behring wishes to place his remedy in the hands of clinicians for investigation.—*The Universal Medical Record*.

SURGERY

IN CHARGE OF E. E. KING, G. A. BINGHAM AND
C. B. SHUTTLEWORTH.

Sterilization of the Hands

It is generally agreed that there is no method which is infallible, and that the use of gloves brings the risk of a false security and the danger of a tear exposing a septic portion of skin. Reverdin and Massol showed, eight years ago, that sudoral infection is a bogey. Huesner, of Barmen, first used iodo-benzine (1 per cent.), afterwards rubbing his hands with iodised vaseline to prevent irritation. Sorel (*Arch. Prov. de Chir.*), holds that a surgeon's duty is to keep his hands in good condition, cracks in the skin being a serious danger. Our first defence against skin infection is the natural secretion which ought not to be destroyed by prolonged application of water, soap, or ether. If iodine solution be used, a preliminary scrubbing should be avoided. It is not the antiseptic action of the iodine which is important, but the formation of a varnish which excludes organisms. But Marquis found that the same results were given by alcohol, without a previous washing which prevents the alcohol from acting. A perfunctory immersion in a watery antiseptic solution is a snare.—*The Universal Medical Record*.

Complete Extirpation of the Stomach

Dr. F. Sasse (*Munch. med. Wochenschrift*) reports a case in which the entire stomach was removed for callous ulcer. The organ was enormously shrunk and the walls greatly thickened over their entire extent. Recovery was uneventful. Examination failed to show any sign of malignant disease. The entire gastric surface was occupied by a callous ulcer, with enormous thickening of the submucosa, the muscularis and serosa being less involved. Only isolated microscopical elements of the mucosa remained. One of the strange features of the case was that in spite of the extent of the ulcer the patient had never vomited blood nor passed it in the stools. The later history of this case shows that complete removal of the stomach is not followed by any deleterious influence upon the nutrition. As regards the technic of the operation, a small portion, only 1 to 2 cm., of the

cardia was left. The stomach was first divided and isolated at the pylorus in order that it could be used to draw down the œsophagus. It has been the author's custom in the last eight or nine years to implant the stomach pump directly into the jejunum. In 1909 he reported on twelve resections, and since then has operated on a much larger number of cases.—*International Journal of Surgery*.

The surgeon's scalpel should find no place in the treatment of the injuries of the hand. The advocated practice of going above the injured tissue and securing sound flap for the closure is vicious in the extreme, and has sacrificed hundreds of thousands of fingers and hands that could have been saved for useful work, and whose commercial loss to the world cannot be expressed in figures. No one can with any accuracy foretell in an injured hand which part will recover and which will die, because no one can measure the reparative force in any given case, and hence it is but fair to the sufferer to give the benefit of the doubt to a conservative course. It is not infrequent to see useful limbs where in cases of severe injury the patient has refused amputation, and has compelled a conservative course, that resulted in restoration of usefulness and the maintenance of earning capacity.—DR. W. P. NICHOLSON, *Old Domin. Jour. Med. and Surg.*, Apr., 1913.

Statistics of Resection of the Stomach

In the clinic of Professor Küttner 157 resections of the stomach have been carried out in the last five and one-half years, as reported by Dr. S. Weil (*Berlin. klin. Wochenschrift*). In 14 cases the operation was done for benign stomach trouble, which could not be positively diagnosed before its performance. In four-fifths of the malignant cases a tumor was present, or at least an area of resistance, while in the other fifth the diagnosis was difficult. The author protests against the view that in cases of palpable tumor radical extirpation of gastric carcinoma is impossible, and thinks, on the contrary, that easily palpable pyloric growths afford the best chance for successful resection of the stomach. His general views are embodied in the following conclusions: (1) The operative mortality has been reduced. (2) The number of permanent cures has not changed. (3) The number of patients with gastric cancer in whom a radical operation was still possible has not increased, but rather diminished.—*International Journal of Surgery*.

Treatment of Internal Injuries of the Knee-Joint.

Prof. Vulpius (*Munch. med. Wochenschrift*) has found that a partial tearing off of the semilunar cartilage at its convexity is more frequent than detachment of the anterior or posterior portions of the cartilage. For the treatment of injuries of the semilunar cartilage the following rules are presented: Immediately after a trauma, if displacement of the cartilage is recognized, it should be reduced by appropriate manipulations; the joint should then be kept at rest five to six weeks. In some cases the results under this treatment have been satisfactory, but not infrequently permanent discomfort remains, particularly symptoms of acute derangement and effusion into the joint. Under these circumstances the joint should be opened, and the injured semilunar cartilage either fixed in its normal position or removed, according to the character and site of the laceration. This procedure gives good results in some cases. In others, however, chronic discomfort persists, especially a feeling of weakness, or signs of irritation may develop. For this reason Vulpius has made it a rule to adopt a simpler method where the dislocation is not marked. A fine aspirating needle is carefully inserted down to the semilunar cartilage at the point where the sensitiveness to pressure is most marked. A few drops of absolute alcohol are then injected in such manner that a portion of the fluid is deposited in the cartilage and tissues of the capsule. After a little practice it can be distinctly determined whether the needle has been properly introduced. Right after the injection, which causes only slight pain, the joint is distended with oxygen by means of the Wollenberg apparatus, the needle being introduced at the outer side of the subcrural bursa under the patella. After the insufflation of the oxygen a starch bandage, reinforced by strips of zine, is applied and left in place for six to eight days. Usually at the end of this time the injections are repeated. The effect of the oxygen is to force out the semilunar cartilage from the interior of the joint and replace it in its normal position. In view of the fact that the oxygen remains several days in the joint it is possible for the cartilage to become attached to the capsule. The part should be kept quiet for three weeks, and during this time systematic exercises of the quadriceps made by the patient and electrical treatment also employed to prevent atrophy. Later massage and gymnastics are resorted to and an elastic knee-cap worn for several months. —*International Journal of Surgery.*

OBSTETRICS AND GYNAECOLOGY

IN CHARGE OF ADAM H. WRIGHT, K. C. M'ILWRAITH, FRED.
FENTON, AND HELEN MACMURCHY.

Contraindications to Curetting. A Clinical Study. BY ROBERT
T. FRANK, A.M., M.D., New York, Adjunct Gynæcologist,
Mount Sinai Hospital.

This paper is intended for the general practitioner, and throughout, his needs, his difficulties, and his viewpoint have been kept in mind.

I have used as a basis for my paper mainly 2,000 consecutive cases taken from my dispensary records, in which careful note was made of the number of curettings, and the reason for which this interference was practised.

More than one patient out of every five had been curetted at some time!

1. *Post abortum*. In this group are included patients whose pregnancy terminated before the end of the fifth month of gestation.

(a) *Induced*, especially infected induced cases, form a group by themselves. If the physician, called in to see a case of this character, is alert and elicits the true history, he will do wisely at once to send such cases into a hospital. This protects the doctor from unjust criticism, and may save him from serious legal complications, if, as not infrequently happens, unexpected and fatal symptoms of sepsis develop. At the onset the course may seem mild, but the signs of infection sometimes develop late.

As a routine measure it has been customary, after careful dilatation, to empty such infected uteri with some placental instrument and a lightly used blunt curette. Even with skill and care, in a certain number of these patients bacteriæmia develops and they succumb.

Lately, Winter, of Königsberg, has suggested that in those cases in which streptococci can be isolated from the uterus, non-interference should be observed until the uterine culture becomes negative—usually a period of several days to a week. His suggestion has raised a veritable storm of discussion in Germany, and has divided the German gynæcologists into two armed camps, between which innumerable statistical bombs are still being hurled through the medium of the professional press. Per-

sonally I incline toward Winter's standpoint in infected cases, not so much because of the bacteriological findings, but because I have so often seen harm result from active interference, and, much more rarely, noted damage which could not be repaired, follow a Fabian policy. Doctor Pollack, of Brooklyn, has shown the courage of his convictions by putting them into practice. In the last fifty cases of puerperal sepsis, which include both post-abortive and post partum conditions, he has refrained from all local intervention, and so far his results show a marked improvement over previous series.

At the very most a curette should be *lightly* and *sparingly* used. In the long run he will save more patients by noninterference than by even the lightest curetting.

(b) *Spontaneous abortion.* In a greater number of cases abortion sets in spontaneously. These cases aside from the history, are usually easy to distinguish by the fact that the patients may bleed for days without any marked rise of temperature, *if not interfered with.* These are the common class of cases, to which the general practitioner is called at some unearthly hour, because of bleeding. If he is inexperienced he will be alarmed by the profuse hæmorrhage, examine hurriedly with septic fingers, pack the uterus or vagina in haste, and convert a clean case into an infected one. No such hurry is indicated. Up to the fifth month women almost never lose a fatal or even harmful amount of blood within twelve hours. After the fifth month profuse hæmorrhage is most often due to placenta prævia or premature detachment of the placenta. But abortion after the fifth month almost invariably takes the form of normal labor in miniature *and requires no interference*, or only such measures as apply to labor at term.

If part or all of the products of conception have been expelled before the physician's arrival, hasty interference is even less indicated. A thoughtful patient will preserve the clots and debris which have been extruded, and careful examination of their character and amount will often show that the uterus is completely empty. Here familiarity with the gross appearance and size of the fetal products at the various months of development, is of invaluable assistance. Unfortunately our medical schools do not supply this knowledge, which, therefore, has to be gained by practical experience and observation. If the material has not been kept, bimanual examination will show with a fair degree of accuracy, from the size and consistence of the uterus, whether that viscus is empty or not. Should the hæmorrhage prove too profuse and persistent, in spite of palliative measures,

the uterine cavity may be aseptically packed with iodoform gauze, left *in situ* for twelve hours, and then emptied at leisure and with due regard for asepsis. Curetting, however, can then usually be dispensed with, as the chorion is expelled with the gauze. Personally, I have been obliged to empty the uterus in spontaneous abortions which were not infected by interference, in only the rarest instances. Almost always it was sufficient to quiet the patient with a small dose of morphine, give fair sized doses of ergot, and apply an ice bag to the abdomen and a sterile dry dressing to the vulva.

The measures just advocated, though applicable in the home, cannot, as a rule, be enforced in a crowded and active hospital service. Here, as a matter of expediency, in order to save time and beds, immediate emptying of the uterus has been practised in uninfected cases in which no contraindications existed. In hospital surroundings, with abundant assistance and full anæsthesia, harm rarely results. Need I emphasize the opposite extreme—the tenement house, the patient across the tumbled bed, the doctor as anæsthetist, assistant, and operator combined? This is a sad, but common occurrence. The medical man who has to contend with such difficulties has my heartfelt sympathy, but my main aim and object has been to show that interference in these cases is but rarely indicated, and almost never imperatively required by the exigencies of the case.

2. *Post-abortion bleeding.* The subsequent post-abortum bleeding may prove annoyingly persistent and profuse. It also, however, in the absence of infection, usually disappears under non-operative treatment. This is forcibly illustrated every day in my dispensary service, where I see large numbers of these patients. They grow alarmed and restive, and themselves demand a curettage after waiting for a few days. I apparently consent and have them apply at the hospital. Almost invariably it is necessary to put these patients on the waiting list, as they have not really urgent cases, and by the time they can be sent for, they are cured. They then present themselves to me with their letter of admission, and tell me that they do not want to be operated on.

The idea that the decidua of the early months, which is left behind, must be removed by curettage before complete involution can take place, is fallacious. When the ovum and its membranes are expelled the decidua gradually resumes its resting character of normal uterine mucous membrane from which it developed under the stimulus of pregnancy. Unnecessary removal of the decidua converts the interior of the uterus into an

unprotected and poorly drained open wound. From personal experience I now know that these patients later conceive again, and carry to term even more frequently than such women as are curetted. The cause for this difference is also clear, and I shall recur to it in the discussion of annexal inflammation.

3. *Post partum.* Of 458 women who were curetted, in twenty the operation was performed post partum. According to my view I consider that the operation was performed exactly twenty times too often! Our hospital records show a far greater proportion because in this class of cases, particularly *after* the curettage, alarming symptoms develop and they are, therefore, at once transferred to such institutions. The mortality in this group is enormous.

After a properly conducted labor, curettage ought never to come into question. After expulsion of the child, the placenta should be delivered either spontaneously or by the Crede method. If through any cause the entire placenta or part of it is retained, it should be removed within a few hours—by means of the hand. Membranes remaining behind are rarely, if ever, the cause of future trouble. Those rare and terrifying instances in which violent post partum hæmorrhage occurs because of complete or partial placental retention, require immediate manual removal of the afterbirth. These cases tax the aseptic preparations and personal readiness and courage to the limit. The majority of febrile cases in which the curette has been used post partum, and which we are then called to treat in the hospital or to see in consultation outside, are due to minor, slightly infected injuries of the parturient canal—tears of the vulva, vagina, cervix, and parametria—which have been extended and converted into severe general septic processes by the unwarranted and reckless use of the curette. Were the simple rule of noninterference adhered to by both physician and midwife, a case such as the following ought never to present itself.

Case. After normal labor a woman presented high temperature. On the second day she was curetted. Twice more within one week the curette was employed. When admitted to the hospital the uterus was found in a fair degree of involution: Death from acute streptococchæmia occurred fourteen days post partum. At the autopsy the uterus was found empty and its muscular walls were exposed, except where covered by a few shreds of necrotic endometrium, all the protection left to it by these three unwarranted and harmful operations, which simply served to break down such barriers as the body could interpose against bacterial invasion.—*Extract, N. Y. Med Journal.*

Editorials.

THE CANADIAN MEDICAL ASSOCIATION

It has been the custom for many years to speak in eulogistic terms regarding the various meetings of our Dominion Medical Association. It seems fitting that we should go a little beyond the average commendations in referring to the 46th Annual Meeting held in London in the latter part of June. We believe there is a general concensus of opinion that the London meeting was far above the average in many if not in all respects. With this end in view the active and energetic President, Dr. Hugh McCallum worked faithfully for a whole year. We all know, however, that the President unaided cannot accomplish such magnificent results. From time to time during the previous year we heard much respecting the work of the local committee in London. We are told by many men well qualified to judge that there never was better work done in any city in the Dominion. In this connection it seems only fair to add that the citizens of this beautiful western town supported the medical local committee in a very whole-hearted and generous manner.

THE PRESIDENT'S ADDRESS.

We desire to refer to one portion of the President's address which contains some wholesome truths with reference to medical education. Among other things he said: "The Carnegie Foundation for the advancement of teaching medical education has done a great service for medicine on this continent. Not the least valuable part of its contribution is this that

it gave support to that faction of every medical faculty desirous of being abreast of modern education. The Carnegie Foundation authorities, have, however, over emphasized the laboratory side of medical education. The German method of medical education is to tie the student to a microscope as opposed to the English method of getting knowledge through the unaided eye. In Germany the aim is to make scientists first and then doctors. The literature of the several subjects that form the basis of medicine has become so extensive that no man can keep abreast of it. Physiology which is usually the most essential of all primary studies has become so elaborate that it has suffered sub-division into three or more departments or professorial chairs. There exists similar sub-divisions in bacteriology, pathology and anatomy. As each teacher declares himself incompetent to instruct outside his sub-division how idle to attempt to make anatomists, physiologists, bacteriologists and pathologists, etc., of medical students. The time is not so very remote when a medical student could master all the primary branches of medicine. To-day it is not possible for him to master a single branch of the sciences that are connected with medicine during his college course. For years American medical teaching has been dominated by the German plan of instruction. In certain quarters there is setting in a reaction. It is claimed that we have become guilty of fetish worship of laboratories in medical instruction and medical practice."

It is somewhat singular that within a few years three others at least of the Presidents have spoken on similar lines. It seems right to presume that these men have fairly represented the opinions of the medi-

cal profession on this important subject. Do the medical faculties of the Dominion fully realize the importance of combining the practical with the scientific?

MUNICIPAL HEALTH MATTERS

The recently appointed District Health Officers for the Province of Ontario, have covered much ground and have accomplished a great deal of work since last autumn. The voluminous reports which they have sent to the Provincial Board of Health indicate that the conditions as to sanitation in many cities and towns are very unsatisfactory. They have found that ice from sewage laden waters is in common use. The arrangements for procuring pure milk are often defective. The sewage disposal arrangements are sometimes bad, sometimes disgraceful. Contaminated water is much more commonly used for drinking purposes than has been generally suspected.

It is only fair to add, however, that in many cities, towns and township municipalities the conditions are good. It is a good sign of the times that people are taking an ever increasing interest in matters pertaining to public health. Although the process of education in such matters appears to be slow it is perhaps more rapid than most of us realize. The District Officers were well chosen and are doing excellent work, they are well endowed with tact and good common sense, and as a rule are on the best of terms with the local officers of health in all parts of the country. We feel confident that their work during the next three or four years will make a wondrous change for the better in health matters in Ontario.

VACCINATION

It is somewhat remarkable that ever since Jenner's time there has been considerable opposition to compulsory vaccination. Among its opponents are always a certain number of physicians. Some months ago an attempt was made in the Isle of Man to secure exemption from vaccination by means of a conscience clause. The Legislative Council decided to hold an inquiry and take expert evidence. A Dr. Hadwen, of Gloucester, dealt with the question from a moral and political standpoint, and urged that it was wrong for any Government to embody a medical prescription (even supposing that prescription were a right one) among its local enactments; whatever may have been the conditions formerly, they did not now warrant any such enforcement, because smallpox had gone the way of the black death, sleeping sickness and the plague. This was due to sanitary improvements. Vaccination was the cause of injury and death.

Under cross-examination, Dr. Hadwen stated that he did not believe in the germ theory of disease in any form. It had never been proved that a specific germ produced a specific disease. He did not believe in the use of antitoxins, antiseptic surgery, or any of Pasteur's works. The views of a man holding such opinions respecting modern medicine are not likely to carry much weight. What was to be said, however, concerning Sir Victor Horsley, the able English surgeon, who is also, perhaps unfortunately, a politician. A few months ago Sir Victor delivered a speech at Wigston, a village situated in the division which Sir Victor represents in Parliament at the

present time, and where he expects to be a candidate at the next election. According to the *Leicester Daily Mercury*, Sir Victor spoke as follows: Smallpox was personally communicated; it could not be carried in the air. The system of vaccination had been handicapped from the first because it did not include re-vaccination. A large proportion of the population was not vaccinated. Yet smallpox is dying out. Why? They had such an efficient public medical service. Of half a million people who died, only ten died of smallpox. So that the disease practically did not exist. If a case occurred all the medical officers were communicated with in the vicinity, and the disease was thus prevented from spreading. It was arranged that possible subjects should be treated at home. Now, as soon as a man felt unwell he would call in his medical attendant. The doctor would recognize the symptoms, and then the disease would be kept from spreading. No vaccination method for protection was therefore now necessary. (Loud applause.) He could not understand all this bother about vaccination. It was clear that the Insurance Act by providing for the visits of a doctor to the homes of the patients had taken a great step towards the prevention of the scourges. Pneumonia, smallpox and all these things would be stopped right at the beginning because the doctor would be in attendance at the first.

TYPHOID FEVER IN THE UNITED STATES

Among the many lay newspapers which are taking great interest in matters pertaining to public health none is doing better work probably than *Collier's*

National Weekly. In an article recently published on the "American Infection," the writer tells us: "To the Greek all the world beside was Barbarian; to the Jew all men else were Gentile, to the Romen the rest of human kind was beneath contempt." The writer also appears to think that the average American citizen is to some extent at least imbued with similar narrow provincialism. As the latter sits at his breakfast table with his newspaper before him, and his cup of coffee in hand, he feels complacently thankful that he is not like those fatalistic East Indians who sickened and died so unnecessarily of cholera.

For four years previous to 1911 there occurred in Russia 283,684 cases of Asiatic cholera, while in the "enlightened United States" during the same period there were not less than 1,250,000 cases of typhoid fever, that is, more than four such patients for every cholera sufferer in Russia, and yet the infections of the cholera and typhoid fever are about equal in virulence and precisely identical in nature, both are contracted by taking into the mouth food or drink impregnated with pathogenic germs. The prevention of typhoid fever is very simple. It may as a rule be prevented by keeping filth out of drinking water.

Dr. A. J. McLaughlin, of the Public Health and Marine Hospital Service, recently stated that 175,000 cases of typhoid fever could be prevented each year by a campaign of education with a saving of about 16,000. This disease causes in the United States an annual money loss of one hundred million dollars. Twenty-four deaths in a city of one hundred thousand inhabitants means probably 200 cases of the disease. The writer concluded by saying, "imagine what would occur should 200 cases of Asiatic cholera sud-

denly develop in any of our American cities." Most of the 90,000,000 inhabitants of the United States would be "Wycliffes" from fright. There would be first-class head lines in all our newspapers. "Yet we take these 200 cases of typhoid fever and their tragic toll of youth with no more vivid expression of emotion than a fatalistic shrug."

NEWS ITEMS

The fourth International Congress on School Hygiene will be held in Buffalo, N.Y., August 25th to 30th, as before announced.

The second annual meeting of the American Mouth Hygiene Association was held in Kansas City, Mo., July 9-12.

The next meeting of the American Public Health Association will be held at Colorado Springs, September 9th to 13th.

The next meeting of the Canadian Public Health Association will be held at Regina, September 18, 19 and 20.

Personals

Dr. Oliver Mabee, of Toronto, was at Metis Beach during the month of July.

Dr. J. S. Sprague, formerly of Stirling, then Perth, Ont., has moved to Belleville.

Dr. Helen MacMurchy, of Toronto, sailed from Montreal for England July 10th.

Dr. G. Sterling Ryerson, of Toronto, is at his summer house, Sturgeon Point.

Dr. Chas. Cuthbertson has removed from 108 Bloor Street West to Madison Avenue.

Dr. J. A. Roberts, of Toronto, was at Beaconsfield, Que., during the month of July.

Dr. Kennedy McIlwraith, of Toronto, has gone to Stoney Lake for the month of August.

Dr. James S. Sprague, of Perth, Ont., has removed to 187 George Street, Belleville, Ont.

Dr. William Oldright, who has been to the West Indies for some months past, has returned to Toronto.

Dr. Alex. Hutchison, of Montreal, was elected a Fellow of the American Surgical Association at the last meeting held in Washington.

Dr. Hugh Macallum, of London, was made an honorary member of the Summit County Medical Society at the half-yearly meeting held at Akron, Ohio, June 3.

Dr. A. M. Rosebrugh, Medical Officer of the Ontario Society for the Reformation of Inebriates, has removed his office and residence to No. 249 Huron Street, a few doors north of College Street, Toronto.

Dr. N. King Wilson, 159 College Street, late senior resident surgeon Throat Hospital, Golden Square, London, desires to announce that his practice in future will be limited to diseases of the ear, nose and throat.

We understand that Dr. T. A. Lomer, who was recently appointed Medical Officer of Health for Ottawa, has returned from Paris, where he was pursuing a special course of study, and commenced practice in his office July 1st.

Among the young Canadian doctors who are doing post-graduate work in London, England, are: Dr. Ivan Dickson, Toronto; Dr. H. D. Harrison, Toronto; Dr. E. J. Foster, Fordwich; Dr. H. A. Williams, Allenford; Dr. J. P. Harrison, Dunnville, and Dr. W. E. Ogden, Toronto.

Dr. Frank Beemer, formerly of Toronto, was travelling with the late Mr. S. H. Janes, of Toronto, for about five years, and during that time he visited China, Japan, India, Ceylon, Australia, New Zealand, Egypt, Norway and Sweden. He was with Mr. Janes at the time of his death in London, England, July 6th.

Hon. Dr. Pyne, of Toronto, Minister of Education for Ontario, left for England July 7th. He expects to attend the Imperial Conference of Teachers in London, which will be presided over by the Duke of Argyle and Lord Meath. Dr. Pyne will address the Conference and will make preliminary arrangements for the next meeting, which, through the invitation of the Ontario Government, will be held in Toronto.

Obituary

HUTCHESON JAMES NASH, M.D.

Dr. Nash, of Forest, died at his home in Forest, May 17, aged 76. He was Medical Health Officer for Forest, the oldest physician in the County of Lambton, and was in active practice about twenty-two years.

JUSTUS SAMUEL WRIGHT WILLIAMS

Dr. Williams, of Oakville, died June 4th, aged 72. He graduated from Victoria University in 1867.

NATHANIEL HENRY ALCOCK

Dr. Alcock died in Montreal, June 12. He was for two years Professor of Physiology at McGill University in succession to Prof. Wesley Mills. He was educated at Dublin University and, after receiving the degree of M.D., studied at Marburg and London. After keeping various positions in Dublin and London, he came to McGill in 1911.

JERROLD BALL, M.D.

The announcement of the death of Dr. Jerrold Ball, of Toronto, July 5th, created both surprise and profound sorrow to his many friends. He was seized with acute appendicitis June 27; an operation was performed June 28. He was apparently improving for a time thereafter, but July 3 serious symptoms

arose and a second operation was performed July 4. After this he went down pretty rapidly and died on the evening of July 5.

Dr. Ball received his medical education in the Toronto School of Medicine, and received the degree of M.D. from Victoria University in 1874. Immediately after graduating he settled in what was then known as Eastern Toronto, although west of the Don. He soon acquired a large practice, which he retained up to the time of his last illness.

His Worship Mayor Hocken, of Toronto, probably voiced the opinion of a large number of citizens, including his patients, when he spoke of his wondrous work for the sick-poor in the city. He said that he was a veritable Dr. McClure in all respects. Dr. Ball was respected by all who knew him, and much beloved by his patients and other intimate friends. To Mrs. Ball and Dr. Harold we extend deep sympathy. We are pleased to think that the latter is well qualified to take charge of his father's practice.

Book Reviews

Urology. The Diseases of the Urinary Tract in Men and Women. A Book for Practitioners and Students in Two Volumes. By RAMON GUITERAS, M.D. (Harv.), Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School; Visiting Surgeon to the Columbus and Post-Graduate Hospitals; Consulting Surgeon to the City and French Hospitals. With 943 illustrations in text and seven plates. New York and London: D. Appleton & Co., 1912.

In these two volumes Dr. Guiteras has covered most thoroughly the whole field of modern urology. The material is practically all based on his personal observation and experience, which few men have had more opportunity to exercise, and the result is a work which we are certain will be accepted as a standard in this department of surgery for years to come.

In Volume I. the first part is taken up with anatomical and physiological considerations and methods of examination, full descriptions, splendidly illustrated, being given of the use of the urethroscope, cystoscope, etc. The latter half of the volume deals extensively with diseases of the kidney and ureter in their clinical and surgical aspects.

Volume II. continues the clinical study of the other portions of the genito-urinary tract, the bladder, prostate, urethra and genital organs being discussed. Finally there is a chapter on syphilis. It almost goes without saying that the subject matter is discussed in the minutest detail and none of the little points which are so often taken for granted are overlooked. Moreover, the diseases are not discussed purely from the surgical side. Medical and palliative treatment is given, so that the book will appeal not only to the specialist but to the great majority of practitioners in their every-day work.

The diagrams, portraits and plates show a most careful selection and are used to considerable advantage in exemplification of the text.

We bespeak for this work a most cordial reception from the profession.

Therapeutics of Internal Diseases. Edited by FREDERICK FORCHHEIMER, M.D., Sc.D. (Harv.), Professor of Medicine, Medical Department, University of Cincinnati. Volume I. New York and London: D. Appleton & Co. 1913.

This extensive work on treatment, comprising four volumes in all, of which we have Volume I. before us, represents the last word on therapeutics, and will remain as a fitting monument to its editor, whose untimely death has recently been deplored by the profession on this continent.

In Volume I. general therapeutic measures are discussed, and the important part that these play at the present time is readily seen by the extensive and excellent articles written by men who are recognized as authorities. Thus we have Organotherapeutics, by Reid Hunt; Vaccine and Serum Therapy, by F. C. Wood; Electrotherapeutics, by Snow; Radium Therapy, by W. H. B. Aikins, of Toronto; Dietetics, by Warren Coleman, and Toxicology, by Victor Vaughan, to mention only some of the articles contained in this volume.

All the contributions are illustrated as required to make the text more lucid.

We have glanced through the other volumes of the series and the same high standard is kept throughout. We shall have pleasure in reviewing them later. A most important feature of the work is the index, a small volume, issued separately, and affording a ready guide to any particular subject on which information is sought.

Neurasthenia. By GILBERT BALLEET, Professeur agrégé à la Faculté de Médecine de Paris; Médecin de l'Hotel Dieu; Président de la Société de Neurologie. Translated from the Third French Edition by P. CAMPBELL SMITH, M.D. Third Edition. Illustrated with seven figures. The Macmillan Co. of Canada, Ltd., Toronto. 1913.

We have read this book with a great deal of pleasure and profit, for it presents a subject which is constantly coming before us, in a most interesting light. Most of us have been inclined to think of neurasthenia as distinctly a modern disease, but, as is pointed out in the preface, such is really not the case. The author further on also makes the claim that overwork by itself does not bring on the condition, usually it is worry over the work that is the exciting cause.

The arrangement of the book is simple. The nature, causes, symptoms and clinical forms of the disease are taken up, and there is also a chapter on pathogeny. The remainder of the book deals with prophylaxis and treatment, with special chapters on female and genital neurasthenia, and the Weir-Mitchell treatment. Stress is laid on the importance of an exact diagnosis.

The translator has done his work well, and is to be congratulated on the clearness of the text. Every practitioner of medicine should read and digest such a book as this. He will find it of untold value in the daily routine of practice.

Text-Book of Ophthalmology in the Form of Clinical Lectures.

By DR. PAUL ROEMER, Professor of Ophthalmology at Greifswald. Translated by DR. MATTHIAS LANCKTON FOSTER. Reiman Company. Price, \$2.50.

Volume II. of this work is to hand and maintains the high standard set by Volumes I. and III., already issued and referred to in this magazine.

Volume II. is composed of eight sections, referring to: (1) Eyelids, (2) Injuries of the Eye, (3) Diseases of the Vitreous, (4) Diseases of the Sclera, (5) Diseases of the Lacrymal Organs, (6) Diseases of the Orbit, (7) Glaucoma, (8) Muscular or Concomitant Strabismus.

The section on Injuries of the Eye is very concise, yet comprehensive, with valuable articles on Sympathetic Ophthalmia and Cranial Injuries.

In the lecture on Diseases of the Orbit the author goes carefully into the part played by the accessory sinuses in this connection.

In the section on Glaucoma the opening sentence gives a key to his purpose in making this article very readable and instructive. He says: "If every general practitioner would learn to recognize immediately the peculiar nature of the disease . . . he would accomplish much good and prevent much harm." We have taken the liberty before of advising physicians to acquaint themselves better with this disease, and would again urge them to read Dr. Roemer's article in this volume.

Dr. Roemer's work is a very valuable addition to ophthalmological literature.

M. L.

Therapeutics of the Gastro-Intestinal Tract. By DR. CARL WEGELE. Adapted and edited, with additions on the Diagnosis of the Diseases of the Esophagus, Diagnosis of the Diseases of the Gastro-Intestinal Tract, Duodenal Tube and Its Uses, Diseases of the Pancreas and X-Ray Examinations of the Gastro-Intestinal Tract, by MAURICE H. GROSS, M.D., and I. W. HELD, M.D. New York: Rebman Company.

There is a good field for such a book as this, in which all the important facts of a very important subject are put together concisely. The last chapter deals with X-ray plates, a subject in which every medical man should cultivate some degree of proficiency. Some typographical errors have crept in, as on p. 6, "movable" for "motile" and "like in," but otherwise the book is heartily to be commended.

The Narcotic Drug Diseases and Allied Ailments. Pathology, Pathogenesis and Treatment. By GEO. E. PETTEY, M.D., Memphis, Tenn. Philadelphia: F. A. Davis Company. 1913.

Too often the family physician is inclined to treat the patient with a drug habit as one who has sown to the wind and reaped a whirlwind. Dr. Pettey shows most conclusively that "narco-mania" and other allied conditions are diseases amenable to treatment, which may be carried out successfully by any practitioner. The subject is taken up thoroughly from every standpoint, and every conceivable question is answered. For instance, How long can we give morphine daily before the habit is formed? We heartily recommend this much-needed work.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Prof. of Therapeutics and Diagnosis in the Jefferson Medical College of Philadelphia, assisted by LEIGHTON F. APPLEMAN, M.D. Vol. II. June, 1913. Lea & Febiger, Philadelphia and New York. 1913.

The contents of this volume are: Hernia, by Cole; Surgery of the Abdomen, by Gerster; Gynæcology, by Clark; Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Thyroid, Nutrition and the Lymphatic System, by Sten-

gel; and Ophthalmology, by Jackson. As usual, the articles are of a high degree of merit and put, in clear, concise language, the medical advances of the past year. Here one can read in half an hour all that has been done during the past twelve months in any particular subject in which he may be interested. We have recommended it for many years as an invaluable desk-book. No one doing scientific clinical work can afford to be without it.

Ophthalmoscopic Diagnosis. By DR. C. ADAM, Assistant at the Kg. (Univ. Augenklinik, Berlin). Translated by MATTHIAS LANCKTON FOSTER, M.D. Rebman Co.

The author and publishers are to be congratulated on this very valuable work. It contains 86 colored pictures, as well as some in the text. These plates, with the concise and practical matter of the text, make a volume most valuable to the general practitioner, as well as the oculist and teacher.

The physician will find that especial attention has been paid to those conditions of the eye associated with general diseases, and that he will get very valuable assistance, and that quickly, by a reference to this volume.

The author has made a pleasing classification of normal and abnormal fundus conditions.

Altogether, we are glad to strongly recommend this volume.

M. L.

Lewis' Pocket Case Book.

We have received from Mr. H. K. Lewis a new *Pocket Case Book* designed for the use of students and practitioners.

The book is neatly bound in limp cloth and the page measures 8 in. x 5 in. It is arranged for 25 cases; four pages are allotted to each case, and the headings are arranged for the record of the usual particulars, including Personal History, Family History, and Present Condition.

There are also diagrams for the marking of physical signs, space for diagnosis, prognosis, and extra space for the record of treatment and progress, including a miniature temperature chart, which should be very useful.

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Miscellaneous.

Hay Fever: "Disease of Mystery"

Dr. S. Fuller Hogsett, of Pittsburg, in his excellent paper, "An Experimental Therapy in Hay Fever," read at a meeting of the University of Pittsburg Medical Society, and published in the April (1913) issue of *American Medicine*, New York, points to some interesting facts respecting this "disease of mystery," as he not inaptly refers to it. "As far back as the year 1565," says the doctor, "Botallus reported a case. Again, in 1673, Von Halmont, and in 1698 Floyer, of London, called attention to this condition. In Good's "Study of Medicine" there is reference to a case related by Timaeus, in 1667, of an attack of asthmatic nature caused by the odor of roses and ipecac."

Thus it will be seen that hay fever, instead of being a disease of modern origin, as many may have presumed, is in reality centuries old.

Discussing the problems of ætiology and treatment, Dr. Hogsett continues: "Many theories have been elaborated, and many forms of treatment have been called to the attention of the medical profession. A strain of pessimism regarding the possibility of a cure in this condition appears in the writings of many authors. No one theory accounts for all features of the affection and the many ætiological factors."

In 1912 Dr. Hogsett treated a number of cases successfully with Mixed Infection Phylacogen. His observations as to methods and results are of interest and value. "In carrying out the Phylacogen treatment," he says, "I have found that the initial dose should be small when given either subcutaneously or intravenously. It has been my procedure to begin with a 2 c.c. dose subcutaneously or one-half c.c. intravenously. . . . In giving the subcutaneous injection I usually select the insertion of the deltoid or the area just below the scapulae. The latter seems to be the ideal spot, as absorption takes place very readily and the complaints from the local reaction are much less. I repeat my injection either daily or on alternate days, the interval to be determined by the clinical condition of the patient. It is seldom necessary to give more than four to six injections, the symptoms often disappearing after the second or third injection. Almost

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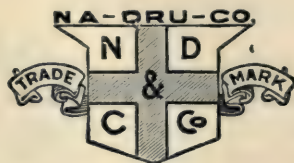
immediate relief is noted by the patient. The irritating discharges from the eyes and nose are diminished in amount, the sneezing is lessened, the dyspnoea is relieved, and the patient usually sleeps comfortably. All cases that I have treated successfully have remained well through the season. I have yet to record only one failure, but I have not had a sufficient number of this class of cases as yet to warrant a positive claim that this remedy will act in all forms of the disease."

Clinical experience with Mixed Infection Phylacogen in the treatment of hay fever is inconsiderable as yet. The product had its inception in 1912, when the season was well advanced, and the opportunities for its employment were necessarily limited. The next two months will undoubtedly tell the story of its applicability to this hitherto intractable disease, and the results of a more extended trial will be watched with a deal of interest.

The steady, increasing demand, among all classes of people, for Postum as an agreeable, hot, table beverage, clearly indicates the high estimation in which this wholesome "cereal" coffee is held. The more people come to realize that coffee and tea contain an alkaloid which, while useful in the hands of a physician, is harmful in a beverage, the greater will be the call for Postum. This article is made of clean, hard wheat (including the bran coat, with its heavy mineral content) and a small per cent. of molasses. When made right—boiled till rich and dark, as per directions on package—Postum, with good cream, is really a pleasant, wholesome drink.

Treatment of Multiple Sclerosis

A large number of drugs have been recommended for the treatment of multiple sclerosis, yet until very recently the disease has been regarded as incurable. Though it is difficult to form an impartial opinion as to the action of any drug in a disease which runs with so pronounced remissions, yet M. Fraenkel has gained the distinct impression that fibrolysin often does a great deal of good. During the last four years 75 cases of multiple sclerosis were treated with this drug by the author, and of these 33 showed no improvement and 15 a decided improve-



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although their sale has been phenomenal are really no better than other National Fluid Extracts, it is because they are very important lines and have never failed to respond in anxious moments, that gives them the high place in the estimation of the profession. Every other line is prepared with the same attention to detail, by the same modern methods and with the same pharmaceutical skill, as the three important staples above mentioned, and the full line of National Fluid Extracts are as dependable, to the very limit of the therapeutic value of the crude drugs employed.

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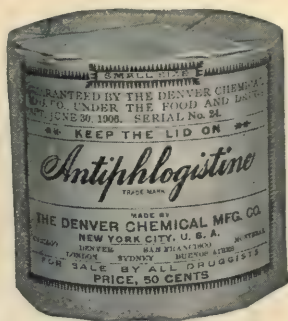
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ment. The symptoms which were favorably affected were the gait, spasms, exaggerated reflexes, nystagmus, tremor, hyperæsthesia and paræsthesia. In all these cases the general condition of the patients improved to a great extent. In the remaining 27 cases the improvement was still more marked and amounted in some of the patients to an actual cure. It is impossible as yet to say how permanent the cure is, since many years must be allowed to elapse before a definite opinion can be given. In two of the most improved cases there was a relapse, but injections of fibrolysin again promptly removed the symptoms. The treatment is very simple and not dangerous, and a slight rise of temperature, due to anaphylaxis, was seen in only a few instances. The injections could always be continued as long as necessary. One course of treatment usually consisted of one injection of 2.3 c.c. every third to fourth day into the nates for six weeks. Baths, massage, gymnastics and electricity will assist the action of the drug.—*Neurolog. Centralblatt*, 1913, No. 1.

Iodipin in Prostatitis

Prostatitis is a common and very disagreeable complication of gonorrhœa, which may delay the cure for many weeks. The methods commonly employed for treating this condition are prostatic massage, hot rectal irrigations and the insertion of suppositories containing ichthyol and potassium iodide. Massage frequently does more harm than good, particularly if practised before the third week; the suppositories not rarely give rise to tenesmus. The patient may also find it very difficult if not impossible to resort to the irrigations. L. Fischel has obtained a much better therapeutic effect from iodipin applied in the form of a rectal injection, both in recent and in old cases where considerable infiltrations were found in the gland. As a rule 10 c.c. of a mixture of one part of iodipin 25 per cent. and two parts olive oil are injected into the rectum every day, or, in mild cases, every second day. An improvement will be noticed within a week; the gland diminishes in size and the second portion of urine begins to clear. As a rule the prostatitis is cured in two to three weeks or else small nodules remain which can easily be dissipated by massage or hot irrigations. According to the author, only very few cases resist this treatment.—*Muench. med. Woch.*, March 25, 1913.

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Careful attention to feeding is, of course, a *sine qua non*, and the details of the infant's nourishment should be carefully investigated and regulated. But this is not all. Many bottle-fed babies are below standard from a hæmatologic standpoint. The marasmic anæmic baby deserves special attention in the way of building up and restoring a circulating fluid which is deficient in red cells and hæmogoblin. In the entire *Materia Medica* there can be found no direct hæmatic quite as suitable for infants and young children as Pepto-Mangan (Gude). In addition to its distinctly pleasant taste, this hæmic tonic is entirely devoid of irritant properties and never disturbs the digestion of the most feeble infant. Being free from astringent action, it does not induce constipation. A few weeks' treatment with appropriate doses of Pepto-Mangan very frequently establishes sufficient resisting power to enable the baby to pass through the hot summer without serious trouble, gastro-intestinal or otherwise.

When physicians desiring to sell their practice and property—one or both—list the same with the Canadian Medical Exchange, 75 Yonge Street, Toronto, conducted by W. E. Hamill, M.D., medical broker, they can rest assured that their offer will only be presented to registered *bona fide* buyers who have bound themselves in writing as to secrecy and not to offer opposition if they do not buy. Every legitimate safeguard possible is thrown about vendors, so that a sale is effected with a maximum amount of speed and a minimum amount of publicity. Eighteen years of experience in medical brokerage has evolved a system for selling medical practices as near perfection as possible, and a short cut to the goal desired is available to those interested. A request to the above address will secure full information as to details.

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A SURGICAL COURSE (attendance limited to 25) from **1st to 27th SEPTEMBER**, which will include Surgical Applied Anatomy, Surgical Pathology, Operative Surgery, Surgical Clinics, &c.

A COURSE ON INTERNAL MEDICINE (attendance limited to 25), from **4th to 29th AUGUST**. This will include series of Clinics upon Diseases of the various systems, with practical Classes upon Applied Anatomy, Haematology, Bacteriology, and the Examination of the Heart, Urine and Digestive Products, Nervous System, and X-Ray Diagnosis.

A COURSE ON DISEASES AND DEFECTS OF CHILDREN (attendance limited to 25), from **14th to 26th JULY**. This Course, which will be suited for Medical Inspectors of School Children, will include Medical and Surgical Clinics, and Special Clinics on Diseases of the Skin, Eye, Ear, Nose and Throat, Teeth, Infectious Diseases and Mental Defects.

A SPECIAL COURSE ON DISEASES OF THE EAR, NOSE AND THROAT, from **1st to 27th SEPTEMBER**, intended for those specializing in this subject.

A SPECIAL COURSE ON THE SURGICAL DISEASES OF THE GENITO-URINARY TRACT from **15th to 27th SEPTEMBER**.

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Arseno-benzol and Mercury in Syphilis

Audry (*Ann. de dermat. et syph.*) reports the approximate results of the treatment of syphilis with arseno-benzol and mercury. The following is a summary of his conclusions: (1) In the primary or chancre period the results of this combined administration have been infinitely better than those obtained before the discovery of salvarsan. (2) In 93 cases of so-called secondary syphilis there were 26 cases of clinical recurrences. These recurrences have been as frequent in those patients who received two or three injections as in those who received only one. Among these 26 recurrences 15 at least had had no mercury, whilst of the 67 cured the great majority had taken or been injected with mercury more or less regularly throughout. This proportion of somewhat more than a quarter of recurrences is higher than occurs in reality, because the apparently cured cases tend to stop away and are lost sight of. On the whole we may conclude that recurrences are just as frequent in patients of the secondary period treated with arseno-benzol as in those treated without.—*B. M. J.*

Salvarsan and Haemoptysis

Audry (*Ann. de dermat. et syph.*) records the result of the administration intravenously of 0.3 gram of salvarsan to a woman 26 years of age, with syphilis, psoriasis, and the signs of a right apical phthisis. She had been treated previously for her syphilis in April, 1912, with one injection of 606 and a course of grey oil, and the symptoms subsided entirely a few weeks later.

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See "British Medical Journal,"
Sept. 16th, 1911.

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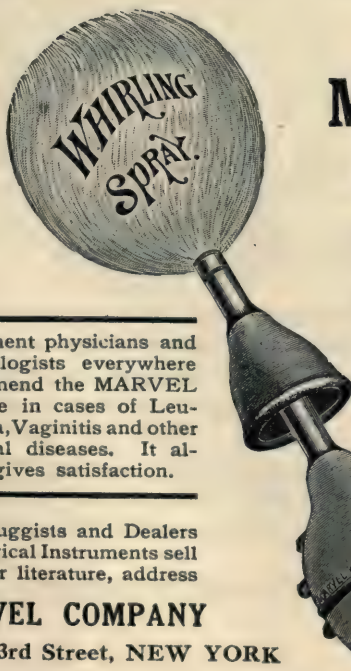
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In October of the same year she returned for treatment of the psoriasis, which had become generalized. Seeing that the Wassermann reaction was still positive, and that the patient had previously tolerated her salvarsan extremely well, she was again injected with a similar dose (0.3 gram). There was no febrile reaction, but the patient vomited, the cough became accentuated, and she brought up blood-stained sputum several times. The latter symptoms persisted for two days after the injection, but there was no change in the physical signs at the right apex. The effect of the injection on the psoriasis, which had previously proved very obstinate to oil of cade, was very marked, and the guttate lesions had almost completely disappeared in ten days. The author counsels extreme caution in the administration of arseno-benzol in cases with the signs of active pulmonary phthisis owing to the well-known congestive action of the drug.—*B. M. J.*

Ocular Changes in Dementia Praecox

Tyson and Clarke (*Arch. of Oph.*) describe changes in the eyes which they regard as typical. The distinctive signs are certain fundus changes, an increase in the size of the pupils and diminution in the corneal sensibility, and contraction of the fields. The fundus changes can be divided into three groups. In the first, there is congestion of the discs, hyperæmia and œdema, dilated, dark-colored veins, slightly contracted arteries and blurring of the edges of the discs, all varying in degree. These changes constitute a low grade of perineuritis of the optic nerve. A second group shows congestion of the nasal side with temporal pallor of the discs, dilated veins, and contracted arteries. The last group shows general pallor of the discs, dilated veins, and contracted arteries—changes which indicate anæmia and partial atrophy of the optic nerve. The authors examined 109 cases with the ophthalmoscope, and state that in all they found definite changes which were fully characteristic of the psychosis. As regards the increase in size of the pupils, this was found to be equal to 19/85 mm. in the 85 cases examined. Corneal sensibility was diminished in 69 cases and normal in 17. The fields of vision were taken in 81 cases. All showed concentric contraction, the largest being 30 degrees, the smallest 0 degrees. The average field extended to 10.6 degrees from the fixation point. The authors state that this syndrome is so constant that it is a valuable aid in diagnosis, especially in differen-

tiating dementia præcox from the maniac-depressive group, from acquired neurasthenia, hysteria, and the various forms of imbecility. The syndrome supports the view that the disease is caused by an auto-toxæmia, and that the poison is primarily vascular, which finally induces neuronie degeneration. The syndrome has a prognostic value, because the severe grades of eye changes are found in the more rapidly deteriorating cases. Finally, the optic nerve lesion is in complete accord with our best knowledge of the pathologic anatomy of dementia præcox.—
B. M. J.

Ringng Second Pulmonary Sound an Early Sign of Pericarditis

Turretini (*Rev. méd. de la Suisse rom.*) states that a ringng second sound over the pulmonary area in the second intercostal space, which is frequently met with in diseases such as rheumatism and nephritis, prone to be complicated with cardiac affections, is an early sign of incipient pericarditis. This fact was first pointed out by Josserand in 1894. It is not always found. Of four of the writer's cases it was absent in two. (1) A woman, aged 38, noticed a difficulty in mounting stairs, with dyspnœa. She was then attacked with lumbago, cough, and morning vomiting. A month later she was admitted to hospital. She was emaciated and presented symptoms of uræmia. The urine contained albumen, but no casts. The pulse was regular. The apex beat was in the sixth interspace outside the nipple line, and there was a systolic apical murmur (dilatation). The second pulmonary sound was ringng, and there was a distinct shock felt over the pulmonary area. The second aortic sound was well marked but less accentuated. Six days later systolic pericardial friction was heard for the first time. On the following day the friction was both systolic and diastolic. It was exceedingly loud and rough, was plainly felt by the hand, and was uninfluenced by respiration. The quantity of urine decreased and death ensued. The diagnosis—chronic nephritis and pericarditis—was confirmed *post mortem*. (2) A woman, aged 54, had caseating tuberculous lesions of the lungs, and was admitted to hospital with pneumothorax. During the fortnight before the fatal ending an extremely loud second sound was audible over the pulmonary area. Two days after admission faint systolic friction was heard over the pulmonary artery; it persisted during forty-eight hours and then disappeared. There were no other signs of pericarditis and the cardiac dullness

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remained normal. A few days before death the heart's action became irregular. The results of the necropsy are unknown. In two other cases the writer observed the onset and development of pericarditis, but in neither was the second pulmonary sound accentuated. In both the pericarditis was due to extension of inflammation from the pleura through the lymphatics to the pericardium. Josseland now claims that the discovery of the sign in the course of an acute disease, especially acute rheumatism, enables the onset of a cardiac affection—either carditis, endocarditis, or pericarditis—to be recognized before the occurrence of a murmur or pericardial friction. The writer believes its presence or absence depends on the method of pericardial infection. If infection occurs through the circulation or the numerous lymphatics which surround the pulmonary artery and communicate with the bronchial glands, inflammation will first attack the peri-infundibular area, and an increased pulmonary diastolic sound may be the first clinical sign. If pericarditis results from direct extension from the left pleura, a pericardial friction in the apical region will probably be the first indication.—*B. M. J.*

Tubercle bacilli can be demonstrated in the urine in fully 80 per cent. of the cases of urinary tuberculosis in women if persistent and repeated search is made from twenty-four-hour specimens. The proper way to search is to examine a couple of slides prepared each day from fresh twenty-four-hour specimens, instead of a number of slides from one specimen. Preliminary renal massage with induced diuresis may cause a shower of them to appear in the urine, and is a point worth bearing in mind. Positive animal inoculation is often helpful. It demonstrates conclusively the presence of tubercle bacilli in the urine; but these may be present simply as a product of renal excretion when the entire urinary tract is absolutely free from the disease; so that a single demonstration is of itself not conclusive proof of urinary tuberculosis. (Richardson, "Bulletin of the Johns Hopkins Hospital.")

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Original Communications

THE EXAMINATION OF SPUTUM IN ONTARIO

DR. C. D. PARFITT, GRAVENHURST, ONT.

The physician whose lot it is to see any considerable number of phthisical patients soon realizes that but few patients are placed under suitable treatment at an early stage of the disease. This may or may not be the fault of the attending physician, and, with a wish to place the responsibility fairly, an analysis of fifty consecutive cases was made, dealing with points which might throw some light upon this subject. Detailed analysis is given in Table I., and for the sake of convenience the number analyzed has been treated as one hundred cases instead of fifty. There has been inevitably some selection in these cases. They are derived from moderately well-to-do classes. Many have been treated for some time before being referred to me, and patients who did not have a reasonable possibility of improvement were not allowed to leave home.

Twenty per cent. only were early cases in a clinical sense, and even in these the actual duration of disease was upwards of three years, while in the far advanced cases it was six years. Of the whole group the average duration of disease was three years and eight months. The duration of actual disease was not much greater in the average case than in the incipients. The average length of the immediate illness was nine months in the incipients and twice as long in the far advanced. Sputum was present before admission in 90% and had been examined in 78%, *i.e.*, in 87% of cases in which it was present. Bacilli had been found in 64% of cases before admission, and before or after admission in 74% of all cases. In 78% of the cases the finding of bacilli

TABLE I.

An analysis of 50 cases (treated as 100); with special reference to the use of Sputum Examination.

No. of Cases	Condition on Admiss'n		Average duration of disease [months]	Average length of present illness [months]	Sputum		Tubercle Bacilli		Kind of Diagnosis	Was this diagnosis a reasonable one without the finding of bacilli?	Treatment after the diagnosis of tuberculosis	After diagnosis is to blame for bad treatment?
	N. A. Classific'n	Stage of disease after Turban			Present before admiss'n	Examined before admiss'n	Before admission	During residence				
20	Incipient	St. I. 20 1 lung 10 2 lungs 10	38.4	9.3	16	10	6 T.B. present in 8 cases	6 T.B. present in 8 cases	Prompt 16 Delayed 2 Neglig't 2	Yes 14 No 2 Uncertain 4	Good 18 Indifferent 2	0 0 0
54	Mod-erately advanced	St. I. 6 St. II. 28 St. III. 20	33.1	12	50	48	40 T.B. present in 40 cases	38 T.B. present in 40 cases	Prompt 20 Delayed 14 Neglig't 20	Yes 42 No 12	Good 34 Indifferent 8 Bad 12	0 6 0 12
26	Far advanced	St. III. 26	71.5	18.4	24	20	18 T.B. present in 26 cases	26 T.B. present in 26 cases	Prompt 6 Delayed 7 Neglig't 16	Yes 22 No 4	Good 10 Indifferent 6 Bad 10	0 6 0 6
100	All classes	St. I. 26 St. II. 28 St. III. 46	44.3	13.1	90	78	64 T.B. present in 74 cases	70 T.B. present in 74 cases	Prompt 42 Delayed 20 Neglig't 38	Yes 78 No 18 Uncertain 4	Good 62 Indifferent 16 Bad 22	0 14 4 18

1. Duration of diseases taken from the time when there were symptoms which, considered with history of possible exposure and the environment, might reasonably point to tuberculous infection.
2. Length of present illness includes the time of more or less continued illness which may reasonably be considered a part of the illness for which the patient comes under treatment.

did not seem to be material to the making of a diagnosis, while in 18% it was of great importance. That is, from the standpoint of diagnosis the search for bacilli as at present used is of great use only in one case out of five. The diagnosis was promptly made in 42% and could be criticized in 58%. In 38% at least the physician was to blame. That is, in 2 out of 5 cases the doctor is to be commended, and in 2 out of 5 cases he is blameworthy. This criticism refers solely to the relation of the physician to the patient, and not to the duration of illness in any given case. A diagnosis may have been prompt, though the opportunity for making it may have come late. After diagnosis was made the treatment was good in 62%, indifferent (which is really bad) in 16%, and bad in 22%. Of the 38% indifferently or badly treated, the doctor was responsible in 20% and the patient in 18%. After diagnosis, then, the doctor is responsible for bad treatment in 1 case out of 5. Pending diagnosis, the treatment may in a number of cases have been unsafe, but this has not been scored against the physician. A good diagnosis may sometimes have been spoiled by indifferent advice afterward, but a negligent diagnosis is invariably associated with unsafe treatment before diagnosis.

Personal experience shows then that patients are placed under institutional treatment only after the immediate illness is already of long standing and the presence of disease of very long standing, that a minority only of diagnoses are promptly made, that as at present used the search for tubercle bacilli is largely confirmatory of diagnosis rather than diagnostic, that considerable laxity of management of a possibly serious condition obtains while a diagnosis is being reached and not infrequently afterwards.

In Table II. a number of miscellaneous data have been brought together with a wish to show the use made of sputum examination, to point out the neglect of this method of diagnosis, and to suggest its possibilities.

Large numbers, while imposing, are often vague in practical suggestion, so the figures which apply to the province as a whole have been reduced to represent an average registration area or county in older Ontario. Also a number of counties selected from different parts of the province, which are fairly conformable to one another in point of size, population, and proportion of urban to rural population, have been contrasted. Statistics for two years have been given, 1909 and 1911, for purpose of comparison, and because between these periods several munici-

TABLE II.

	Province of Ontario	Average County		Elgin	Oxford		Ontario		Leeds and Grenville
		Whole Province 47 Reg- istration Districts	Old Ontario 40 Reg- istration Districts						
Area (square miles).....	260,862	5,550	1000	720	764	852	1086		
Population (1911).....	2,523,274	53,686	59,549	44,312	44,371	41,006	35,767		
Population per square mile...	9.67	9.67	60	60.54	62	48.12	32.9		
Physicians (1912).....	2,948	63	67	59	66	46	84		
Sputum Exams. (+ results)...	2,259 (+ 2,421 (+ 24%)	1909	1911	1909	1911	1909	1911	1909	1911
No. Sputum Exam's per Physician.....	.76	.76	.80	.20	.76	.28	.93	.78	.97
Deaths from Pul. Tuberculosis under 5 years, from Chronic Bronchitis, Asthma, Emphysema, Broncho-Pneumonia... ..	2,017	43	43	18	33	19	35	73	66
No. Deaths from Pulmonary Tuberculosis per Physician.	.68	.68	.68	.30	.50	.41	.74	.86	.78
Deaths, excepting Children under 5 years, from Chronic Bronchitis, Asthma, Emphysema, Broncho-Pneumonia... ..	574	12.2	13.7	16	19	7	18	7	16
Deaths from Pulmonary diseases other than Tuberculosis.....	3,032	64.5	65	65	70	68	58	65	64
do., do., in children under 5 years, from Tuberculosis (all forms).....	1,021	22	19	11	16	19	6	23	11
Death Rates from Tuberculosis D. R. in 1908 was 1.12 rates for City 1.43 " " Town 1.17 " Country 1.002	2,380	50.6	50	28	37	23	42	86	82
Total No. of Deaths.....	32,628	694	730	527	566	511	559	785	764
General Death Rate.....	14.6			505	629				

palities have undertaken the examination of sputa apart from the provincial laboratories. The selection of these counties was not a matter of prejudice, as others were found as bad or worse than the worst, and some better possibly than the best. Mention of a greater number, while of interest, would only burden the inquiry.

On the average 4 out of 5 physicians send 1 specimen of sputum each to the provincial laboratory every year. In one county the average was as low as 1 specimen for 5 physicians in 1909, and 1 for 33 in 1911. A second county increased its average remarkably from 3 specimens for 4 physicians in 1909 to 2 specimens for each physician in 1911. A third county more than trebled its number of specimens, raising itself from an extremely low standing to a high one of nearly 1 specimen for each physician. A fourth district has a high consistent average of nearly 1 specimen for each physician.

On the average 2 deaths are recorded yearly for every 3 physicians. In one county there was but 1 death for 5 physicians. In this county, however, there were 7 deaths to 1 sputum examination for the same year, while the ratio of deaths from phthisis to deaths from other chronic pulmonary diseases was disproportionately low compared with other counties contrasted. In a second county the deaths were 1 for 2 physicians, but the sputum examinations were four times as numerous as the deaths. In a third county the deaths recorded were almost doubled in the two years, but the sputum examinations were more than trebled. In the fourth district the recorded deaths are consistent, 4 for 5 physicians.

Only one-fourth of all specimens are recorded as positive. The proportion of positive cases to deaths, then, is only one-fourth the ratios mentioned above. It seems therefore probable that in an obvious case no sputum examination is considered necessary. It has already been suggested, however, that most examinations are corroborative rather than truly diagnostic. Dr. Connell, director of the Kingston branch of the Provincial Laboratory, writes that only 5% of the total examinations of that laboratory are for second examination, only 1% for third examination, and only .13% for a fourth. Dr. Nasmith, director of the Toronto Municipal Laboratory, finds that physicians seldom send a negative sputum in for a second examination. Most physicians, then, send only one or an occasional specimen, but there is a small number of habitual senders. A number of these latter are accustomed to send repeats of the same case, and a few

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send a great number of repeats. There are a few, therefore, who appreciate the best use of the laboratory.

Amongst other data in Table II. are to be found the deaths from chronic or sub-acute pulmonary diseases, which might easily give rise to doubt in diagnosis. These average about one-third of the deaths from phthisis. In this group the proportion of morbidity to mortality must be much greater than is the case in phthisis, so the number of suspicious cases for whom a series of examinations of sputa for bacilli must be desirable becomes very large. As children under five are excluded, this group of diseases will largely affect people who have at least reached middle age. In this connection it is worth noting that in recent years the death rate from phthisis is greatest at about 45 years of age (English statistics). Differential diagnosis then becomes most difficult at the age of the greatest death rate from phthisis. A country practitioner writes that of 12 cases whose sputa he personally examined in a year 5 gave positive results, while 1 was a case of chronic bronchitis, 3 were cases of bronchial asthma, and 3 of broncho-pneumonia.

The number of cases of active pulmonary tuberculosis for this province has been previously estimated at approximately 10,000, *i.e.*, five times the number of deaths. Philip, of Edinburgh, would double this ratio to include all cases who should be under medical supervision. Dividing the smaller number among the physicians of the province, each should have four cases consistently under treatment, some of whom should recover, and one should die every 18 months. For each case that dies one recovers,* so each physician should average a new case every nine months.

The finding of tubercle bacilli does not mean an early diagnosis, but it may happen to be the earliest that is possible or at least practicable. The exclusion of phthisis is one of the most necessary precautions in diagnosis to be practised by all physicians, but it cannot be done thoroughly without the definite intention to make it as absolute as possible—and the repeated examination of sputum is necessary to effect this. The acceptance of the idea of the presence of tuberculosis in the body from relatively early childhood in four-fifths of all people emphasizes this necessity. The bacillus often long evades detection. I recall one case, seen in the service of Professor Osler, in which

* "Importance of the So-called Pretubercular Stage," R. C. Paterson, "Tuberculosis," June, 1912.

the sputum was examined upwards of 60 times before the bacillus was found, and another case is included in the series in Table I., in which there were 20 negatives before a positive result. Apart from the diagnostic importance for the patient's sake, it is of moment for hygienic reasons that chronic phthisis should not be allowed to be regarded as chronic bronchitis.

Unfortunately, a negative report too often quiets the physician's anxiety about the diagnosis of the suspect, and after such a report both he and his patient enter a state of false security. This attitude toward negative reports must be fairly general, else there would either be a greater proportion of positive findings or a much greater number of specimens sent in, and the proportion of second examinations would be higher than 5%. The record of examinations of the Provincial Laboratories suggest, however, by the slowly increasing numbers with the lessening of positive cases, that the sputa of more suspects are being sent in (Table III.).

The fact that physicians send in specimens which give negative results is in itself encouraging, but the importance of this fact is by no means appreciated by many of the senders. In a number of replies to inquiries about the use of the provincial laboratories captious criticism of the work done at the laboratories has been expressed, because the senders have received negative reports from seemingly undoubted cases. One physician sends "a good many, but seldom gets a positive report"; another writes that his fellow-physicians complain that they "have never yet received a positive diagnosis, though they have sent many specimens from undoubted cases." Yet another writes: "One is not much encouraged to send specimens, as the report is nearly always the same—no bacilli—and I am sure specimens of which I have received reports have swarmed with T.B." Contrast with these criticisms the appreciation of the physician who speaks for more than 20 fellow-physicians in 6 towns: "No one does his own examinations now, as the Kingston Laboratory has always given such good service; everyone takes advantage of free examinations at Kingston." The varying local spirit of physicians is very well shown in the county columns in Table II.

Since 1898 the Provincial Laboratory at Toronto has examined sputum for physicians free of charge, the branch laboratory at Kingston since 1904, and quite recently a branch laboratory at London has been instituted. Table III. shows the haste with which physicians in general have availed themselves of the advantages at hand. The reports of Dr. Amyot, the director of

TABLE III.
Sputum Examinations.
Provincial Board of Health Laboratories.*

Year	Total	+	—
1899	629		
1900	703		
1901	1006		
1902	1056	378	678
1903	1153	371	782
1904	1447	456	991
1905	1870	601	1204
1906	2254	607 +	1281 +
1907	1957	534	1423
1908	2214	601	1613
1909	2259	665	1594
1910	2721	729	1992
1911	2421	586	1835

*Records of Toronto Laboratory only until 1905. After this date the records of the Kingston Laboratory are also included.

TABLE IV.
Inquiries regarding the Examination of Sputum.

From Whom Made	Localities	Inquiries	Replies
Practitioners—Cities, Large..	1	6	3
Medium	3	7	5
Small..	8	11	5
Towns	8	8	6
Country	11	11	6
	—31	—43	—25
Hospitals—with Internes 15 }	52	70	6
without " 55 }		8	—14
Sanatoria.....	9	9	9
Laboratories—Municipal.....	3	3	3
Provincial	3	3	3
	66	128	54

the laboratory, contain a series of laments about the little use made of the facilities offered. He says: "Either our practitioners are too busy . . . do not know of these facilities, which are free to them . . . only asking to pay postage on the specimens . . . or else they have already begun to lose interest in their work, or are not doing their duty to their patients."

In 13 years the number sent has only quadrupled; 629 reports in 1899 have increased to 2,421 in 1911. Two cases a year probably enter the ranks of the tuberculous for each that dies, 1 to recover and 1 to die. There would then be 4,200 new active cases yearly. To get these relatively early, each might require an average of 5 sputum examinations (by which all will not by any means be diagnosed). These would amount to 21,000 examinations. Half this number of examinations at least might reasonably be expected for differential diagnosis in many other pulmonary diseases. A total of 30,000 examinations yearly for the province would not be an extravagant ideal.

In New York City, Dr. Biggs reports that the sputum examinations have increased from 511 in 1894, to 41,820 in 1911. Enforced reporting of cases and facilities for easy collection of sputum have no doubt both been material in obtaining this result. If facilities in Ontario were used to the same extent in proportion to population, there should be upwards of 20,000 specimens examined yearly. Initiative on the part of practitioners only is needed, and the recent provisions of the provincial health service, whereby containers in mailing cases are placed in each municipality, should lessen the inertia which has hitherto prevailed. The recent law on the reporting of cases should serve as some stimulus where apathy regarding professional standards and responsibilities exist. It is not at all unusual to learn from the patient that the examination of his sputum was undertaken only at his own urgent request. A remarkable instance, included in the series of cases in Table I, was that of a patient who had had sputum 7 months. Between Easter and midsummer he was examined by 4 physicians, with a negative diagnosis; none suggested the examination of sputum, so the patient sent a specimen to the provincial laboratory himself, with a positive result.

In order to gain some idea how many examinations of sputum are made in the province, apart from those made at the Provincial Laboratories at Toronto, Kingston and London, an inquiry was sent to the superintendents of the 70 hospitals, to the superintendents of the 9 sanatoria, to the directors of the

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municipal laboratories of Toronto, Ottawa and Hamilton, and to 43 physicians practising in 31 different places. Twenty-five replies from practitioners were received, 6 of which alone gave intimate information concerning more than 100 other practitioners.

Replies from 14 hospital superintendents suggest that, with the exception of the several general hospitals in Toronto, Ottawa, Hamilton, London and St. Catharines, no considerable number of sputum examinations is made for diagnosis, or for the convenience of physicians at the hospitals. Only those hospitals which employ internes are likely to make any examinations, and there are only 15 of these hospitals in the province.

Information from 9 sanatoria suggests that examinations of sputum for diagnosis are seldom desired or made. Many specimens are, of course, examined in following the progress of cases. Few, however, of the cases admitted require examination for diagnosis.

In the one large city of the province, figures obtainable show that there are probably upwards of 1,600 examinations made annually, apart from the few still made for the city by the Provincial Laboratory. Three hundred of these are made at hospitals. Since the city began to make examinations, and provided facilities for the collection of specimens, 26 months ago, the examinations for the city at the Provincial Laboratory have been greatly reduced, and it is probable that examinations are also less numerous in the laboratories of hospitals of the University, and of physicians. The city laboratory reports 1,239 cases for 1912, which may be compared with 550 made for the city in 1910 by the provincial laboratory before the city laboratory was instituted.

In the three medium-sized cities comparatively few physicians use the provincial laboratories, about one-half use the facilities provided by the hospitals to some extent, about 10% only do their own work, and 40% do not use any means of examination. The provincial laboratories record so few examinations from this group, and the obtainable hospital records show so few (30 for a year in a city of 50,000), that it seems probable a fair number of examinations must be made in private laboratories.

In the smaller cities (replies from 5), the hospitals are only used occasionally; in an occasional place there is a special examiner (a chemist in one city); less than 20% of practitioners have facilities for doing their own work, but only a small pro-

portion of these use them, and the provincial laboratories are fairly used in some cities, and but little in others. About 33% of physicians do not use any means of examination.

In six towns the procedure is extremely variable. A majority of physicians fail to have any examinations made. In two the provincial laboratory is used entirely and freely by all practitioners. In four, one-sixth to one-half do their own work to some extent.

In five villages practitioners use the provincial laboratories entirely. In one village one practitioner does his own work, another uses the provincial laboratory, and three make no use of any means of examination.

On summarizing the various letters received, one is forced to the conclusion that, of the 3,000 practitioners in the province, barely one-half make any consistent use of the facilities provided, and while 10% may possibly have equipment for doing microscopical work themselves, not more than one-half of these do it at all consistently.

Most practitioners who have their own equipment lament the difficulties that a busy practice puts in the way of making examinations consistently, and find that their laboratories fall into disuse because they have not the time to keep them efficient. It is interesting to note, however, that the greatest enthusiasm for doing one's own microscopical work comes from a busy country practitioner, no longer young, who uses laboratory methods extensively, and examines specimens from at least a dozen patients a year. He uses efficient and sometimes unusual staining methods. He fails to see how any doctor can do justice to himself and his patient without a laboratory, and thinks none should be too busy to use it. It is encouraging to note that some physicians make many examinations themselves. One records 80, and another 20.

A consulting physician writes that practitioners seldom have sputum examined in suspicious cases, excepting some of the younger and more progressive men; that many golden opportunities are lost, and in many cases no examination is made till after the disease is quite established, and only in the minority of cases, of whose condition he has no doubt, are bacilli found.

When an estimate is made of the probable total number of examinations made in the province, besides those of the provincial laboratories, the result is, however, both gratifying and surprising. The following figures may be fairly taken:

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<i>Toronto—</i>	
City laboratory (1912).....	1,239
Hospitals—General (1912)	249
Victoria (1911)	15
Western (1911)	50
<i>Ottawa—</i>	—
Board of Health (1911)	40
Lady Grey Hospital (1911)	10
	50
<i>Hamilton—</i>	
Board of Health (1911)	328
Tuberculosis Dispensary (1911)	18
	346
<i>London—</i>	
Victoria Hospital (1911)	30
<i>St. Catharines—</i>	
General and Marine Hospital (1911).....	50
<i>St. Thomas—</i>	
Special Examiner (1911)	50
<i>Peterboro—</i>	
Medical Officer of Health (1911)	12
	2,791
Practitioners—5% of 3,000, 150, average 10 specimens each	1,500
	4,291
Provincial Laboratories (1911)	2,421
	6,712

It is a generation since the tubercle bacillus was discovered and shown to be easily demonstrable for diagnosis. It is half a generation since the sanatorium movement was inaugurated in Canada. The success of sanatorium methods in the treatment of tuberculosis has been thoroughly proven, but the proportion of success to be obtained depends directly upon the limitation of disease, and this again upon early diagnosis. Special training and facility may be largely necessary to demonstrate an early lesion by physical examination. Relatively early cases may, however, be frequently discovered by the prompt and consistent examination of sputum examination. Alertness and conscientiousness alone are necessary to use the facilities at hand. The proper use of sputum examination is a practicable measure which every physician can employ to-day in the great campaign against tuberculosis.

HOW CAN CROSS-INFECTION BE PREVENTED IN A HOSPITAL FOR COMMUNICABLE DISEASE?

BY M. B. W_HYTE, B.A., M.B., TORONTO.

Mr. Chairman and Gentlemen:

The subject for discussion at this time is one which has received attention from the responsible heads of hospitals for communicable diseases ever since the municipally-owned and controlled hospital has been a part of the system of isolation of infectious diseases.

It was at one time hoped that the segregation of such diseases would materially lessen the spread of disease. Whether successful or otherwise, with this segregation, a new responsibility has devolved upon the municipality in the prevention of further infection amongst those it has taken upon itself to care for.

Just how much of the cross-infection which does occur may be correctly attributed to the hospital it is difficult to say, but certain it is that even under the most ideal conditions cross-infection to a limited degree is inevitable. It is the common experience of all children's hospitals that wherever you have a number of children gathered together, there you will have communicable disease; and this fact, to be fair, is equally true for hospitals which have the greater responsibility of caring for those cases against which other hospitals close their doors. Therefore there is a certain percentage of infection which is common to all hospitals where children are congregated. Deduct this common percentage from the statistics of a well-planned and carefully managed hospital for communicable disease, and I venture to say that if the facts were known, the balance, if any, to the credit of the municipal hospital would be very, very small.

The causes of cross-infection are many and varied. From what little experience I have had in Toronto, I should say that the great causes are: overcrowding, lack of accommodation for observation of doubtful and of suspected mixed cases, and the lack of proper and convenient facilities for the frequent cleansing of the hands by attendants. This, of course, is secondary to, or dependent upon, the fact that mixed cases and carriers of disease are quite common. It is common knowledge that two, and

even three, different diseases may co-exist in one patient. One disease may be perfectly obvious, the other may be in the incubation stage, or may be so far advanced that it is now unrecognizable. For instance, of all cases of scarlet fever admitted to the Toronto Isolation Hospital during 1912, 14 per cent.—a rather unusually large percentage—were carriers of diphtheria bacilli on admission. Since only from one to two per cent. of well persons harbor diphtheria bacilli, this indicates, I think, the great susceptibility of the scarlet fever patient for diphtheria, and furnishes a very reasonable explanation of the frequency of the occurrence of post scarlatinal diphtheria. The converse is not proven bacteriologically, but is very possible, namely, that a certain percentage of diphtheria patients are also carriers of scarlet fever in the form of mild or unrecognizable cases. One can appreciate the possibilities of cross-infection if the 14 per cent. of scarlet fever patients, all harboring diphtheria bacilli, were allowed to mingle freely with the other patients not so infected. A difficulty quite parallel, and for which we have not as simple a remedy, still obtains in the possibility of a percentage of diphtheria patients being also carriers of scarlet fever, and therefore dangerous to other diphtheria patients.

The carrying of infection on the person, especially the hands, of an attendant, is a cause which cannot be overlooked, and as infection by contact, direct or indirect, is now recognized as the main or only medium of infection, carelessness in this regard may become a very real danger.

I have often wondered if our innocent-looking little clinical thermometer may not have been in many cases the vehicle of transmission of disease from one patient to another, more especially where communicable diseases are concerned. It is impossible to thoroughly sterilize a thermometer; in fact, it is the only article coming in contact with the patient's mouth which may not be boiled. I have felt that it would be a step in advance were each patient provided with his or her own thermometer while in the hospital.

Having in mind the main causes of cross-infection, the preventive measures should be such as will reasonably meet these causes. In the first place, to tax the capacity of a hospital to the utmost is to invite cross-infection. This is a real danger, which should be emphasized. There is always a percentage of cases which on admission give a history of exposure to another disease, or which are at the time suspicious of another disease, or which are definitely mixed cases. With a number of empty beds at our disposal for observation purposes and a sufficient

nursing staff that is not overworked, these cases can be safely isolated until the diagnosis is cleared up, or kept in isolation during their entire stay in the hospital. A careful history taken on admission, and a careful physical examination with special reference to the condition of the throat and tongue, the presence of Koplik spots, and presence of skin rashes and desquamation, with ample room for isolation, is the most potent factor in the prevention of the spread of an infection which cannot be diagnosed bacteriologically, but clinically.

To isolate every case of diphtheria for one week as a suspect scarlet fever patient is no doubt the ideal procedure. It entails, however, a great amount of apparently unnecessary labor and expense. It has been my experience that isolation of all cases pronounced suspicious, after careful examination in the admitting room, is for practical purposes quite sufficient. The typical appearance of a fourth or fifth day scarlatinal tongue and the punctate rash or "eanthem" on the palate of an early case have proved invaluable clinical aids. In Toronto during 1912 one-half of all cases of scarlet fever occurring amongst diphtheria patients developed during the first week in the hospital, and were no doubt incubating the disease on admission. Most of the remaining cases could be traced to these as a source. This would seem to argue in favor of the rigid isolation of all cases of diphtheria for one week as suspects. But there has been a great reduction in this type of cross-infection, dating from the opening of the new wing, providing an additional 120 beds, two separate nurses' homes, and better and more convenient facilities for gowning, and cleansing the hands. During the past eleven months, in which we have had the advantage of these needed improvements, the occurrence of scarlet fever amongst diphtheria patients has become a rare thing indeed, and this without the rigid isolation of every case of diphtheria, but only those which were in any way suspicious. Only three cases have occurred in 568 diphtheria patients admitted, about one-seventh of the number occurring during the previous year. It is doubtful if much better results than this would be obtained by the use of cubicles.

The two separate nurses' homes, for diphtheria and scarlet fever nurses, and separate quarters for maids, are no doubt most important factors, where they are possible. Where not possible the only safe procedure is to provide facilities for nurses to change their uniforms and to thoroughly cleanse their hands before going on or off duty.

The routine swabbing of throats of all scarlet fever patients on admission, the isolation of those found with diphtheria bacilli, and the administration of an immunizing dose of antitoxin, say 2,000 units, to all patients, practically rules out the possibility of post-scarlatinal diphtheria. In Toronto during the past two and a half years this procedure has been adopted. With an admission of 1,425 cases of scarlet fever, only six patients contracted a very mild, almost membraneless, type of diphtheria after admission. For one year, 1912, there were no cases at all. Three developed at one time, and were traced to a "carrier" who was considered free of the germs after two successive negative cultures had been obtained, but on a third culture being taken, showed the presence of the Klebs Loeffler bacillus.

Where measles and chickenpox—two diseases with fairly definite incubation periods—have been known to break out in a ward, a most ingenious "ruse" is adopted by the authorities in the South Department of the Boston City Hospital. The infecting case, of course, is immediately removed, and toward the end of the incubation period those cases remaining are divided into units of two or three patients, and isolated in separate small wards. Should a second case then develop, it will have exposed only those two patients with whom it was isolated, and in this way the spread of the disease is effectually curtailed.

The fundamental principle underlying the prevention of cross-infection is medical asepsis, first and last. It had its beginning when Dr. Grancher of Paris discarded the theory of airborne infection, and has since developed and been put to the test in hospitals in France, England and the United States. It has resulted in more perfect isolation by relieving our minds of the fear of infection through sources which do not exist, and allowing us to concentrate our thought and efforts upon the real cause, direct or indirect contact.

Great credit is due to those who had the courage to disregard the time-honored theory of aerial infection, and to prove the value of aseptic nursing by actual experiment. The isolation of various types of infectious disease in one ward is not an advisable procedure from a practical standpoint, tending to throw unnecessary responsibility upon the nurse, but it has served to illustrate that contact is the true vehicle of transmission of infection, and that perfect medical asepsis is the only certain barrier.

THE PUBLIC HEALTH ACT OF ONTARIO*

DR. JOHN W. S. McCULLOUGH,

Chief Officer of Health, Ontario.

The most important features of the Ontario Act revised last year are :

1. The provision whereby the province is divided into districts, each with a trained medical officer. There are seven of these. Each officer gives all his time to sanitary work within his district.

2. The reduction in the numbers of members of the Local Boards, there being five members in places of 4,000 population and upwards, and three members for places of smaller population, including the townships. The Medical Officer of Health is a member of the Board and its executive officer.

3. The tenure of office of the Medical Officer of Health is made permanent. This official cannot be dismissed except for cause and with the consent of the Provincial Board. He must be paid a reasonable salary. Provision is made whereby the municipality pays his expenses for attendance at the Annual Conference of Health Officers. This year about 300 were in attendance.

4. The medical and surgical attendance upon indigents cannot in future be saddled upon the practitioners of the community. The Council is required to provide for this.

5. The period given to report communicable disease has been shortened to 12 hours instead of 24. Measles and tuberculosis are made placardable diseases.

6. Isolation hospitals are placed directly under the control of Local Boards of Health and arbitration is provided in case of dispute as to their location outside the municipality.

7. The onus of placarding premises for communicable disease is placed directly upon the Medical Officer of Health.

8. Under the regulations the Medical Officer of Health has power to commit a tuberculosis patient in a hospital or sanitarium under certain circumstances.

* Read at the meeting of Canadian Medical Association, London, June 25th, 1913.

9. Power is given to a municipality to regulate and inspect its meat supplies.

10. Perhaps as important a part of the Act as any is that relating to the establishment of water works and sewerage systems. Neither of these may be begun without the approval of the Provincial Board, and under certain circumstances the Board has power to order a municipality to establish a water supply or sewage disposal system.

11. For the first time in the history of the Province, a sanitary engineer has been appointed under the Provincial Board.

The reports of communicable diseases and births and deaths made by the medical profession are very incomplete. The importance of this question cannot be denied. Some medical men claim they should be paid a fee for such reports. The Ontario Health Officers' Association recently passed a resolution asking the Government to pass legislation requiring a fee of 50 cents for each report of a communicable disease, a birth or a death. This question should in my opinion be freely discussed here. All I have to say about it is this—that the members of the profession will in the future be required to obey the law. So, if they believe themselves entitled to a fee for such reports, they will get it only by making their influence felt in the same manner as other organizations do. If they follow their usual business tactics and wait for Providence to help them, they will get no more recognition than at present. These remarks are made with a view to provoking discussion.

Selected Articles

CLINICAL LECTURE ON REFLEXES AND THEIR SIGNIFICANCE

BY FREDERICK S. PALMER, M.D., F.R.C.P., LOND.

Physician to the West End Hospital for Diseases of the Nervous System.

From the clinical standpoint, the study of reflexes is indispensable in all neurological cases. It is of paramount diagnostic and localising importance. By a careful observation of these tests valuable evidence is obtained of the condition of the spinal centres, and of the pathways of conduction above and below them.

As the grey matter in every segment of the spinal cord is known to contain centres for certain muscle groups, and reflex movements, a knowledge of these signs, the various segments to which they belong, together with their anatomical and other relations, constitute the basis of spinal localisation. In the physiological sense of the term a reflex is briefly defined as "the result of peripheral excitation," or, in other words, the involuntary response to a stimulus applied to the surface, mucous, cutaneous, or tendinous. The time usually occupied in the reaction is estimated at about one-tenth of a second. Normal reflex activity depends on the integrity of the reflex-arc, and its proper connections with other centres situated at higher levels. If any one of these structures be irritated or destroyed, irregularities of reflex-action occur. The reflex-arc is constructed of an afferent, or sensory nerve, an intermediate centre (spinal cord or medulla), and an efferent or motor nerve. Excitation of the centripetal nerves reaches the centre by the posterior roots, from whence the motor response is transmitted along the centrifugal route. All lesions of the reflex-arc which diminish the function of conduction either decrease or abolish the reflex movement; but when the spinal centres are abnormally irritated, and when they are incompletely cut off from the controlling influence of the cerebral centres, the reflexes are increased. Total destruction of communication between the centres at different levels, whether it be caused by injury or disease, results in abolition of the deep reflexes below

the seat of the lesion. Before discussing the various methods of eliciting reflex-action, it should be borne in mind that in certain instances the movement may be inhibited by voluntary effort, and in some functional diseases, notably neurasthenia and hysteria, the reflexes are very frequently exaggerated. In order to arrive at an accurate conclusion of the results of these tests, it is essential to obtain complete relaxation of the muscles, and, if possible, to secure the intelligent co-operation of the patient. Several observations are sometimes necessary. Three groups of reflexes are distinguished:

- (1) Superficial—cutaneous or mucous.
- (2) Deep—muscular or tendinous.
- (3) Organic—or visceral.

SUPERFICIAL.

In this group are included the cranial reflexes, such as contraction of the pupil to light, dilatation of the pupil on irritating the skin of the neck, contraction of the palate on tickling the fauces, sneezing and lachrymation from irritation of the nasal mucosa, etc.

The cutaneous reflexes vary in activity even in normal individuals. Usually they are most marked in children, and they are more easily obtained in women than in men. They consist of more or less rapid muscular contractions in or near the part stimulated, but if the excitation be excessive, the contractions may spread to neighboring muscle groups, or invade others at a distance. When present, the reflexes demonstrate the integrity of the reflex-arc at the level which is being tested, or through which such impulses are travelling. In organic cerebral hemiplegia the superficial reflexes, with the exception of the abnormal type of plantar reaction, are at first commonly diminished or lost on the affected side, but subsequently they are increased.

The most important normal cutaneous reflexes, with the spinal segments to which they belong, are:

Scapular.—Contraction of the scapular muscles on stroking the skin between the scapulæ 5th cervical to 1st dorsal.

Epigastric.—Contraction of the upper fibres of the rectus with dimpling of the epigastrium on the side irritated, on stroking the skin downwards from the nipple. 4th to 7th dorsal.

Abdominal (Rosenbach's sign).—Contraction of the abdominal muscles, with drawing of the umbilicus to the side stimulated, on stroking the skin in a downward direction from the

costal arch, or on scratching the skin over the outer edge of the rectus. 9th and 10th dorsal.

Absence of the reflex is very often an early and fairly reliable sign in disseminated sclerosis. It is also frequently lost in some acute abdominal diseases, and said to be exaggerated in pachymeningitis and early tabes.

Cremasteric.—Ascension of the testicle on stroking the skin over the inner side of the thigh, or by making pressure over the sartorius muscle. 1st and 2nd lumbar.

The reflex is sometimes diminished, or may be absent in elderly men, and exaggerated on the affected side in some cases of sciatica.

Bulbo-cavernous.—Contraction or twitching of the bulbous urethra, felt by a finger placed behind the scrotum, on pinching or pricking the dorsum of the glans penis. 3rd or 4th sacral. Loss of the reflex is common in tabes.

Glutea.—Contraction of the gluteal muscles on stroking the skin of the buttock. 4th and 5th lumbar.

Anal.—Contraction of the sphincter ani on pricking the perianal cutaneous surface. 5th sacral and coccygeal.

Plantar.—Flexion of the toes, most marked in the four outer ones, on slight stimulation of the sole of the foot. The movement is accompanied with, or preceded by, contraction of the tensor fasciæ femoris, and if at all pronounced, by drawing up of the leg and thigh. 5th lumbar to 2nd sacral.

Careful observation of the test is of the utmost importance. The stimulation should be gentle, just sufficient to provoke a slight response, and no more. In children under three years of age, or who are unable to walk, the normal reaction is extension of the toes.

The most convenient method of eliciting the reflex is to place the limb to be tested at rest, rotated on its outer side, flexed at the hip and knee, then gently scratch the outer side of the sole with a pencil, and watch the first movement of the toes, particularly the hallux.

ABNORMAL CUTANEOUS REFLEXES.

Plantar (Babinski's phenomenon).—Extension of the great toe on gentle stimulation of the sole of the foot with or without a fan-shaped extension of the other toes (*phénomène d'éventail*). The response is less rapid in appearance than the normal movement of flexion.

Oppenheim's Reflex.—Extension of the hallux obtained by making firm pressure along the inner edge of the tibia from above downwards.

Paradoxical Flexor Reflex (Gordon's Sign).—Extension of the great toe brought about by squeezing, or making firm pressure on the deep calf muscles.

Malleolar Reflex (Chaddock's sign).—Extensor movement of the hallux on scratching the skin over the outer malleolus from the heel inwards.

Persistent extension of the great toe obtained by any of these methods is a manifestation of some defect in the pyramidal system, rarely, if ever, seen in health. Gordon claims for the paradoxical flexor response that "it is also present in slight lesions, or irritation of the motor tract, and motor centres," and may be elicited in some cases long before the Babinski plan gives a definite result. I have made a great many observations of the test during the last four years, and my experience is that I have been much more successful in eliciting the response by gentle irritation of the outer side of the sole than by any other method. The same may be said of Oppenheim's and Chaddock's signs.

NORMAL DEEP REFLEXES.

Although these reactions are commonly called tendon reflexes, the description is not strictly correct, since they may be provoked by concussion of the periosteum and muscle, as well as by the tendon. Like the normal superficial reflexes, they may be increased, decreased, or abolished. As a rule, they are increased in spastic paralysis and decreased in atrophic cases. There appears to be considerable doubt whether they can be regarded as true examples of spinal reflexes, or merely indications of the myotatic irritability of muscular tonus. For clinical purposes it is sufficient to say, their presence implies that the reflex-arc at the level under investigation is intact.

The most important of the deep reflexes and their segmental levels are:

Arm-jerk.—(a) Contraction of the biceps, when the arm is semi-flexed, on tapping the tendon at the bend of the elbow. 5th and 6th cervical, flexion movement.

(b) Contraction of the triceps, when the arm is semi-flexed and the hand supported by the observer, on striking the tendon or muscle at the back of the elbow. 7th cervical, 1st dorsal, extension movement.

Wrist-jerk.—Contraction of the supinator longus, when the elbow is flexed, and the patient's hand supported, on tapping the forearm about the styloid process of the radius. 6th to 8th cervical, flexion movement.

The reflex is often increased in neurasthenia and disseminated sclerosis, and sometimes diminished in tabes.

Knee-jerk (Westphal's sign).—Contraction of the quadriceps extensor, particularly of the vastus internus, with forward movement of the foot and leg, when the flexors of the knee are relaxed, on sharply striking the ligamentum patellæ. 3rd and 4th lumbar.

The ordinary plan of eliciting the reflex is to ask the patient to cross one knee over the other, and this is in most cases sufficient; but in stout people, who often experience difficulty in placing one lower limb across that of the opposite side, and also in some nervous persons, who are unable to relax their hamstring muscles by this method, recourse must be had to other measures. These are:

A.—The observer passes one arm beneath the hamstring muscles of the leg to be tested, and grasps the opposite knee with his hand, so that the knee rests upon his arm, and the foot is slightly raised from the floor, when the patella tendon is struck.

B.—Place the patient on a firm elevated seat, with its edge in contact with the hollow of his knee, and his feet not touching the ground, when the slight blow is delivered.

C.—In the recumbent position, with his legs extended, the observer draws the patella slightly downwards, places one of his fingers across its upper border, and strikes the finger with a percussion hammer.

D.—Make the patient lie on a couch with the limb to be examined rotated on its outer side, and flexed at the hip and knee, when the tendon is tapped.

REINFORCEMENT.

If none of these plans succeed in eliciting a response, the method called reinforcement must be tried. The object in view is to obtain more complete relaxation of the knee flexors by diverting the patient's thoughts from the test, and fixing his attention elsewhere. The measure is useful in increasing the energy of a feeble jerk, but it has no appreciable influence over a reflex which is absent from pathological causes. There are two methods of reinforcement.

Jendrassik's.—The patient, seated in a chair with his eyes fixed on the ceiling and his terminal phalanges interlocked on their palmar surfaces, is told to pull strongly with both arms when the tendon is struck.

Laufenauer's.—When the patient is seated with both feet resting on the floor, a little in advance of his knees, he is di-

rected to squeeze the observer's arm when he grasps the quadriceps extensor with one hand, and strikes the tendon with the other.

The knee-jerks, on account of their significance and accessibility, are probably more frequently tested than any other of the deep reflexes. Not for one moment would I question the value of the evidence thus obtained. Their absence is always highly suspicious of some involvement of the nervous system, central or peripheral, but I feel bound to say that I dissent from the assertion, made in nearly every text-book on medicine and by nearly every author who has written on diseases of the nervous system, that loss of the knee-jerks is always pathological. For some years I have devoted a good deal of attention to the subject, and in the out-patients' department of this hospital I have in a few cases failed to elicit the reflex when I have been unable to discover any other definite symptoms of organic nervous disease. I do not attach so much importance to that, because, in dealing with numbers in a limited time, it is probable that I did not exhaust all the methods of elicitation, or in a necessarily hurried examination I may have overlooked other objective symptoms; but let me quote two cases from my private notes, about which I feel tolerably sure.

The first is a lady, 56 years of age, unmarried, who has been coming to see me at long intervals for the last three and one-half years. Her complaints, chiefly gastric, are, I believe, entirely functional. At her first visit I tested her knee-jerks and failed to obtain any response. On each subsequent occasion I have repeated the experiment in a different way with precisely the same results. She is quite as concerned as I am about the absence of her knee-jerks, so I cannot imagine she tries to inhibit the reaction. Her pupils are equal, respond briskly to light and accommodation, and her gait is perfectly normal. She is spare and active, and there is no trace of rombergism. From what I know of her character and antecedents, I consider it most unlikely that she ever had specific disease, or has been addicted to alcohol. If she has any organic trouble I am unable to discover it, and the development is very slow, for I think she is in better general health now than when I first made her acquaintance.

The second is that of a medical friend, who called to see me a few evenings ago, and has given me permission to make use of the note. In the course of conversation he told me he had no knee-jerks, and had known that fact for many years. At his suggestion, I tested the statement by every method I could think

of at the time; but, like all my predecessors who had examined him, with a negative result. He is a man of good professional standing, whom I have known, and sat next to at committee meetings for the last eight years. I am glad to add that, so far as I know, he appears to enjoy excellent health in spite of his absent knee-jerks, and he volunteered the remark that he never had syphilis. From these two examples, and others I can recall, I am convinced that some modification of the statement contained in books is desirable, if not actually necessary. Absence of the reflex is, however, so rarely met with in healthy people that when it occurs either bilaterally or still more significant, on one side only, it would make me keenly on the lookout for other signs of organic disease, or developments in the same direction.

The knee-jerks are, or may be, lost in many morbid nervous conditions, including tabes, tabo-paresis, Friedreich's ataxia, neuritis, complete transverse myelitis, acute anterior poliomyelitis, progressive muscular atrophy, amyotrophic lateral sclerosis, Landry's paralysis, syringomyelia, the later stages of subacute combined sclerosis, some intracranial tumor with pressure, deep coma, pneumonia, and temporarily in family periodic paralysis and after attacks of epilepsy.

Increase of the reflex occurs in organic diseases of the pyramidal tract without complete break of continuity, in lateral and insular sclerosis, dorsal and cervical myelitis, the early stages of subacute combined sclerosis, tetanus, strychnia poisoning, and in some functional disorders.

Ankle-jerk.—Contraction of the calf muscles when the leg and ankle are flexed, on tapping the Achilles tendon, first and second sacral, extension movement. The most convenient plan of testing the reaction is to make the patient kneel on a chair with his feet beyond its edge.

The reflex is often abolished before the knee-jerk in tabes, and on the affected side in many cases of sciatica.

ABNORMAL DEEP REFLEXES.

Ankle-clonus.—Sustained uniform to and fro movements of the ankle (alternate flexion and extension) at the rate of from 6 to 9 a second, when the knee is flexed, and the observer abruptly flexes the foot, supporting the knee with his other hand.

A spurious form of ankle-clonus is not infrequently seen in functional disease (hysteria), but it is never sustained, nor is it associated with an extensor plantar reflex. It consists of a

few vibratory movements when the test is first applied, and passes off quickly.

Jaw-jerk (Mandibular reflex).—Contraction of the masseter and temporal muscles, sometimes accompanied by closure of the eyelids, on tapping a finger placed horizontally across the chin, or on striking a paper knife laid on the lower incisors, when the mouth is partially open.

The reflex is said to be usually absent in health, but from numerous tests made in the wards and out-patients' room, I have noticed a movement strongly resembling a jaw-jerk in some cases of neurasthenia and hysteria.

Contra-lateral movement.—Extension of the leg, with adduction of the opposite limb on striking the patella tendon when the patient is in the recumbent position and his knees are semi-flexed.

Paradoxical contraction.—Tonic persistent contraction of the anterior tibial muscles when the foot is gently flexed upon the leg and the muscles are suddenly approximated.

The reflex is rarely obtained and is usually associated with a spastic condition of the lower limbs.

The abnormal deep reflexes, with the exception of the jaw-jerk, of the value of which, as a sign of organic disease, I am by no means satisfied, may be looked upon as manifestations of an involvement of the nervous system.

ORGANIC REFLEXES.

The chief organic reflexes of clinical interest are those of the bladder, rectum and pupil. In health, evacuation of the contents of the viscera is performed by contraction of their own muscular fibres (probably in some cases assisted by the efforts of the diaphragm and abdominal muscles), and relaxation of the sphincters which guard their orifices. Normally the sphincters are maintained in a state of tonic contraction, relaxed only during the acts of micturition and defæcation. Both these functions are to a great extent under the influence of the will. The signal for action is given by the sensory nerves, conducted to the brain, and the impulse proceeds along the motor pathway. The centres concerned in micturition and defæcation are three in number—cerebral, spinal, and sympathetic. The highest are located in the cortex, corpus striatum and optic thalamus, the spinal are contained in the second sacral segment, and those for the lowest levels are situated in the hæmorrhoidal and hypogastric plexuses. Any pathological condition of the centres or their connecting links produces disorders of reflex-action, in-

continence or retention of urine, diarrhœa, or constipation. Examination of the sphincters in such cases gives us important information concerning the seat of the lesion.

Sphincters.—The state of the sphincter vesicæ is ascertained by passing a sound along the urethra, and noting the degree of resistance encountered.

The sphincter ani is tested by digital examination, and inspection of the anus.

When the sphincters are permanently relaxed from destruction of their centres, as, for instance, in myelitis of the lower end of the spinal cord, there is a continuous escape of urine and fæces; but if the break occurs above the centres, and it is complete, there would be at first retention, followed by intermittent incontinence, and there may be constipation—the voluntary cerebral influence is suspended. When the bladder is full, the sphincters are relaxed reflexly without the patient having any power to hold back his urine, and it may even be discharged without his knowledge.

If the sphincters remain intact, the bladder may become enormously distended, relief taking place from what is called overflow incontinence. Over-distension of the bladder leads in time to paralysis of the detrusor, the viscus is never emptied, residual urine collects, decomposes, sets up cystitis, and the other evils which follow in the upper urinary organs.

True dribbling of urine (*incontinenza veri*) is frequently noticed in tabes, from anæsthesia of the bladder, or possibly, from degenerative changes in the sensory part of the reflex-arc.

In tabes, and also in disseminated sclerosis, the urinary disorder may take the form of hesitating or precipitate micturition. Expulsion of the contents of the rectum is most probably influenced by a similar mechanism; incontinentia alvi occurs when the sphincters are paralysed, but the discharge of fæces depends to a considerable extent upon the consistency of the stools, and the efforts of the abdominal muscles.

In the absence of other morbid conditions not of nervous origin, incontinence of the sphincters nearly always means organic central disease, but there is no doubt that it may occur in hysterical affections. About five years ago I saw at a nursing home in one of the suburbs, a young lady, 23 years of age, who was suffering from paralysis of the lower limbs, with incontinence of urine. She was very emotional—alternately sobbing and laughing. All her cranial nerves and reflexes, with the exception of the pharyngeal, which did not respond, were perfectly normal. She could flex and extend her legs freely in

bed, but said she could not raise her heels. She was well nourished, and although she had been in bed some little time, I could not detect any signs of muscular atrophy. Percussion over the pubes convinced me there was no distension of the bladder. After some coaxing I persuaded her to try to get up. The nurse placed her feet on the floor, but when she attempted the erect position, her knees immediately gave way (*astasia abasia*) and she fell, not on the ground, but very skilfully across the bed. A few applications of the wire brush down the spine arrested the incontinence; in a fortnight I heard she was walking about the room, and shortly afterwards left the home, apparently cured.

PUPIL-REFLEX.

The pupillary reflexes are those of light and accommodation.

Light.—If the patient be placed opposite a good light and both his eyes are completely covered by the observer's hands, under normal conditions, when one hand is suddenly withdrawn, the iris is seen to contract at once and decidedly. Wernicki's pupil, or as it is more frequently called, the hemiopic pupillary reaction, is a test employed in some cases of hemianopia. A ray of light is thrown on to the blind side of the visual field.

Absence of the reflex indicates a lesion in the optic pathway behind the chiasma between it, and including the quadrigeminal bodies.

Accommodation.—This is easily tested by asking the patient to look first at a distant object, and then at something quite near to him; the eyes must necessarily accommodate to enable him to see it. The centres for the pupil-reflex are the third cranial nerve, the ciliary ganglion and the second dorsal.

Abolition of the light reflex occurs in paralysis of the third nerve, disease of the ciliary ganglion and in advanced optic atrophy. The reflex may be modified or not obtained under certain toxic conditions, such as belladonna or opium. Absence of the ordinary light reflex with preservation of accommodation, the Argyll-Robertson pupil is one of the earliest and most valuable tests of tabes and general paralysis. It has been noted in nearly 80 per cent. of the cases. It may be unilateral or bilateral, but the presence of a sluggish or normal light reaction does not exclude these diseases, nor does an active knee-jerk.

The opposite of the Argyll-Robertson pupil, loss of convergence with preservation of the light-reflex, is seen in diphtheritic neuritis; paralysis of the palate, with regurgitation of liquids,

nasal intonation, and the other symptoms of diphtheria would, however, make the diagnosis clear.

SUMMARY.

If we ask ourselves the question what help does the study of reflexes give us in the diagnosis of nervous diseases, apart from the important evidence they supply in localisation, I think it may be said:

1. That the Argyll-Robertson pupil, Wernicki's sign, true sustained ankle-clonus, a persistent extensor type of plantar reflex, the contra-lateral movement, and paradoxical contraction are valuable objective signs of organic nervous disease.

2. Loss of all reflexes in any particular area points to pathological causes.

3. Abolition of the knee or ankle-jerks and sphincteric incontinence is strongly presumptive of central or peripheral nervous disease.

4. Increase in the normal jerks without other objective symptoms is suggestive of neurasthenia.

5. Absence of the palate and plantar reflexes is in favor of hysteria.

REFERENCES.

"Diseases of the Nervous System," Gowers and Taylor.

"Disease of the Nervous System," Oppenheim.

"Nervous Diseases and Psychiatry," Dana.

"Nervous and Mental Diseases," Church and Peterson.

"The Diagnosis of Nervous Diseases," Purves Stewart.

"Disease of the Nervous System," Gordon.

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—*The Medical Press and Circular.*

Editorials.

LODGING HOUSES IN TORONTO

Dr. Hastings is certainly one of the most efficient and also one of the most aggressive Medical Health Officers in North America. He has lately issued some very important regulations for the control of lodging houses in Toronto. It very fortunately happens in connection with Dr. Hastings' persistent efforts towards the improvement of sanitary conditions that he is very greatly supported by the press of Toronto, and also by many associations engaged in doing various forms of charitable work. Many of these associations are composed mostly of women, who appear to take a keener interest in sanitary matters than men. The *Mail and Empire* of August 14th publishes an article in which the writer strongly supports the new improvements in connection with the betterment of lodging houses. The writer thinks that some proprietors of these wretched places may consider the new requirements altogether too drastic. The opinion is expressed, however, that such proprietors should rather wonder at the long duration of practices that ought not to have survived the dark ages. "When he came into office Dr. Hastings found a state of sanitary backwardness here that was almost incredible. The task he had to undertake was the raising of a city out of primitive conditions in so far as many phases of its health conditions were concerned, and bring it up to the level at which it ought to be kept in a modern city of 400,000." The writer then goes on to speak of the good work that has been accomplished. "The great advances made along many lines of his

department have given so much satisfaction that the public are very willing that the Medical Officer of Health should have a free hand and ample appropriations for the continuance of his work. He is following the true policy of insuring the city against slums and breeding grounds for disease.

BRITISH MEDICAL ASSOCIATION

The annual meeting of the British Medical Association for this year was held in Brighton, July 21-25. For many years the meetings have been held in large industrial cities or in university towns. It was quite a change, therefore, and in some respects a pleasant one, to hold the meeting this year in the most prominent watering place in England. The meeting was fairly successful, although the attendance was not up to the average. This is not surprising as it was more or less overshadowed by the World's Congress held in London in August.

Among the most pleasant functions was a reception given to about 100 representatives of the association at Windlesham, Conan Doyle's residence, near Crowborough. They drove out in the early afternoon in motor coaches, about fifty miles from Brighton.

The next meeting of the association will be held in Aberdeen. It was originally recommended that the Aberdeen meeting should begin July 21, but for certain local reasons it has been found necessary to change the date to July 14 or thereabouts. The places of meeting have been practically settled for some time to come. It is expected that the annual meeting will be held in Cambridge in 1915; in Newcastle-on-the-Tyne in 1916, and in Portsmouth in 1917.

SEWAGE DISPOSAL

Mr. Dallyn, Engineer of the Provincial Board of Health, went to Stratford August 12th, to inspect the sewage system of that city. Many of the farmers living along the creek below the city objected strongly to the nuisance of stream pollution and moved for an injunction against the city. The engineer recommended chlorination, a proper bed to catch the sludge, new sedimentation tanks and improved pumping equipment. The pollution of this stream is only one of a very large number of such evils as may be found in all parts of the Province. The Provincial Board has been fighting against such evils for many years and their efforts towards making radical improvements are being highly appreciated in many parts of Ontario.

We know of no town or city in any part of Canada where the local Board of Health, the Council and the citizens take a more active interest in sanitation than Stratford. We are assured that speedy action will be taken by the Stratford Council to meet the recommendations of the engineer.

CANADIAN PUBLIC HEALTH ASSOCIATION

The Third Annual Congress of the Public Health Association will be held in Regina on Thursday, Friday and Saturday, September 18-20, 1913.

We are told that considerable progress has been made as to preparation, and there will be an exceptionally attractive programme. The Government of Saskatchewan and the Council of the City of Regina will co-operate in entertaining the delegates. The

President for this year is Dr. J. W. McCullough, of Toronto, Chief Officer of Health for Ontario. The other officers are: Vice-Presidents, Dr. A. J. Douglas, Chas. Hastings, Helen MacMurchy, J. D. Page, T. H. Whitelaw and Mr. Aird Murry; General Secretary, Major Lorne Drum, of Ottawa; Treasurer, Dr. Geo. D. Porter, of Toronto. The Chairman of the local Executive Committee is Dr. M. M. Seymour, of Regina. The local Conveners of Sections: Dr. Arthur Wilson, Medical Health Officers; Dr. W. A. Thomas, Medical Inspection of Schools; Capt. Harry Morrell, Military Hygiene; Dr. D. S. Tambly, Veterinary Hygiene; Thomas Watson, Sanitary Inspector; L. A. Thornton, C.E., Engineers and Architects; G. A. Charlton, M.D., Laboratory Workers; Rev. W. W. Andrews, LL.D., Social Workers.

It is hoped that there will be a large attendance at the meeting from the Eastern Provinces. The men throughout the West are supporting the meeting with great enthusiasm.

THE BRITISH INSURANCE ACT

The opposition to the new Insurance Act in Great Britain has been decreasing somewhat rapidly during the last few months, although it is not yet quite acceptable to either the profession or the public.

After Mr. Lloyd George made the important concession of raising the fee from 6s. to 8s. 6d., and 6d. extra for tuberculosis, many general practitioners looked more favorably on the provisions of the act. It was felt, moreover, even by those who were reluctant to give up their freedom which existed before the passage of the bill, that refusal to work the act

would mean financial ruin, especially for those practising in industrial districts. As a consequence we are told by the President of the Yorkshire Branch, in an address published in the *B. M. J.*, that in the month of June 18,600 doctors were treating 14 millions of insured persons. It has been found that in these congested industrial districts the incomes of the doctors have been largely increased, in many cases doubled. On the other hand, doctors who work among the middle classes have suffered great losses. Doctors who practise amongst the upper class, and consultants and specialists are not affected by the act. There are still many objections to certain details in the act, and it is expected that many changes will be made in the interest of both the public and the profession in the proposed amendments which are likely to be carried during the present session of the British Parliament.

NARCOTICS IN THE UNITED STATES

The United States Public Health Service recently issued a bulletin giving interesting statistics as to drug habits in that country, and the laws enacted to restrict such habits so far as possible.

We are told that deaths from poisoning (other than alcoholism) in the States during the last ten years have averaged about 5,000 a year, over one-third being suicidal. It has been estimated that 50,000 pounds of opium should suffice for the medicinal needs of the American people; yet, during the last ten years there has been an annual importation and consumption in the United States of over 400,000 pounds. Fully 75 per cent. of this opium is manufac-

tured into morphine, and it is estimated that at least 80 per cent. of this morphine is used by victims of the habit, "to their personal detriment, and with appalling effects on general society."

It has also been estimated that 150,000 ounces of cocaine are illegitimately used each year "to make fiendish criminals of human beings." In addition, probably hundreds of tons of chloral and other hypnotic drugs are consumed annually.

The opinion is expressed that much can be done and has been done by legislation to curtail the evils. It is admitted, however, that the laws which have been enacted in fifty-three political divisions are to a large extent unsatisfactory. In some States the laws are not sufficiently comprehensive. In other States they are so burdened with exceptions and provisos that they are impossible.

EUGENICS

The subject of "Eugenics" or the "well-being of the race" is fairly well understood in the United States and Canada; and both the profession and the public are taking great and intelligent interest in it. The profession of Great Britain are studying the subject in all its aspects very carefully, and the public of that country are becoming interested in rather an erratic way.

Major Leonard Darwin, who was elected President of the Eugenics Education Society of London for a third time at the last meeting, in his address, commented on the progress made by the society. He said, however, that much remained to be done, and further support was needed for the eugenic move-

ment, both as regards volunteers and supplies. Moreover, it was the right kind of support that was needed, as there was a danger that eugenics would become a mere dumping ground for cranks.

It was necessary that the public should understand that eugenics did not mean the establishment of stud farms for the breeding of giants and geniuses, but rather the improvement of posterity by means of a more thorough knowledge of the laws of heredity.

Dr. Amand Routh, of Charing Cross Hospital, London, delivered a very interesting address (*B. M. J.*, July 5) on the "Toxæmias of Pregnancy," in which he made some apt references to eugenics from an obstetric standpoint. He considers that the value of the potential mother and her unborn babe as a national asset is becoming increasingly recognized. He strongly advises the more general use of pre-maternity or pregnancy wards in general hospitals. He believes that "eugenics should begin before birth, not afterwards. A child has the right to be born healthy." It has been computed that if women were properly examined and correctly treated during pregnancy, half the stillborn children would be saved.

THE INTERNATIONAL CONGRESS OF MEDICINE

The Canadian members of the medical profession who have been attending the International Medical Congress at a meeting held at the Imperial Institute on Tuesday morning, August 12th, unanimously passed the following resolutions:

Moved by J. T. Fotheringham, Toronto, seconded by J. M. Elder, Montreal.

“That we wish to offer to the President, Sir Thomas Barlow, to the Secretary, Dr. W. P. Herringham, and to the whole committee, our hearty congratulations upon the great success which this meeting of the Congress has attained under their kindly and able administration. But particularly as members of the great British family do we desire to express the sense of familiar, homely intimacy which is felt by all of us, enhanced as it is by the presence of so brilliant a gathering of the savants of other climes and races. For, as Canadians, revisiting the Motherland *coelum non animum mutamus*, we deeply appreciate the real significance of the idea expressed by His Royal Highness Prince Arthur of Connaught in his gracious address of welcome, that all of us of the Empire stood together as hosts to all the rest of those attending. We noted with pleasure the repetition of this idea by the President in his address

“On behalf of the Canadian ladies, we wish to thank the committee of ladies here for the profuse and well-ordered hospitality shown by them, and the many arrangements made for the comfort and entertainment of our wives and daughters.

“And as we part, each to his own work across the seas, we beg to offer to all our kind hosts and friends

in London our cordial felicitations, thanks and good wishes."

Moved by Dr. Jas. Third, Kingston, seconded by Dr. R. A. Reeve, Toronto.

"That the thanks of the Canadian Section of the International Medical Congress be tendered Dr. W. H. B. Aikins, Toronto, for his able services as Secretary of the Canadian National Committee during seven years and member of the Executive Committee of the Seventeenth International Medical Congress."

Moved by Dr. H. A. Bruce, Toronto, seconded by Dr. H. J. Hamilton, Toronto.

"That the Organizing Committee for Canada for the Eighteenth International Medical Congress to be held in 1917 be constituted as follows: Chairman, Dr. W. H. B. Aikins; Secretary, Dr. H. B. Anderson; the Deans of the medical faculties of the Canadian universities and the Presidents of the Canadian Medical Association for the years 1916 and 1917, with power to add to their numbers."

THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE HELD IN LONDON, AUG. 6-12

The opening meeting was held in the Albert Hall, August 6.

At eleven o'clock the strains of the National Anthem, given forth by the great organ, announced the entry of Prince Arthur of Connaught, whom the King had deputed to perform the inaugural ceremony. Instantly the entire assemblage rose to its feet. Accompanying his Royal Highness in processional order up the centre of the hall were Sir Thomas Barlow, the President of the Congress, the chief Congress officials, Sir Edward Grey, Secretary of State for Foreign Affairs, and the heads of various medical colleges. To their allotted places amongst the distinguished visitors went the processional party; in front sat Prince Arthur, with Sir Thomas Barlow on his right, and Sir Edward Grey on his left.

During the afternoon it was officially stated that the total number of subscribing members to the Congress was 7,400.

Prince Arthur, declaring the congress open, said:

I feel that it is hardly necessary for me to assure you what very great pleasure it affords me to be present on this occasion to welcome in our midst, in the name of the King, the representatives of all branches of medical science from every quarter of the globe, who are gathered here together to-day.

His Majesty, your patron, has graciously been pleased to command me to give expression to his earnest hope that such international meetings may conduce to the advancement of the great science of medicine and to the general well-being of mankind.

His late Majesty, King Edward VII, as Prince of Wales, opened this congress in 1881—(cheers)—and it is a source of peculiar satisfaction to myself that it is my privilege to follow in his footsteps and to open this world-wide congress on this occasion.

In 1881 Sir James Paget was President, and M. Pasteur, to whose wonderful discoveries the whole world is so much indebted, was present. Marvellous as these discoveries were considered at that time, the discovery of Röntgen rays and radium within the last few years has furnished the medical world with powerful weapons for the diagnosis and treatment of disease, and I feel sure that I am voicing the opinion of all present here to-day when I say that we have worthy successors of the president and representatives of the 1881 congress in the persons of Sir Thomas

Barlow and the representatives from foreign countries and the British Dominions beyond the seas assembled here to-day.

May I remind you that, although this congress is meeting in London, it is not England alone which is the host. Canada, Australia, New Zealand, South Africa, and India are represented on the various committees, together with Englishmen, so it is really the Empire, and not the United Kingdom, which is giving this congress, thereby forging another link in the Imperial ideal.

I think I may claim to have had some slight experience in international exhibitions, and I am fully sensible of the good that they do and have done in promoting relations with foreign countries, and, therefore, I am convinced that even greater and more far-reaching international benefits may result from such a congress as this one, which affords opportunities for its members of acquiring and imparting knowledge to one another in a mutual exchange of ideas and discoveries.

A congress with a membership of some 8,000 persons constitutes a meeting of huge dimensions, and must surely appeal to the imagination, and, although much of the work must necessarily be of a technical character, there will be subjects of much general interest, and the best men from all over the world have been chosen to introduce them.

I will not dwell on the various problems to be discussed, which will be explained by Sir Thomas Barlow, but I take this opportunity of congratulating the Reception Committee on the success of their labors, of which we have such evident proof to-day, and I have no doubt that, at the close of the congress, they will feel most fully repaid.

In conclusion, I have the greatest pleasure in welcoming you here to-day, and I am further desirous to inform you that His Majesty the King is very pleased that you are to be his guests at Windsor, and I venture to hope that you will find yourselves as much at home in this country as at your own homes, which, in some cases, are so far away. I have much pleasure, in the name of the King, in declaring this congress to be open.

GOVERNMENT'S WELCOME.

Sir Edward Grey said: It is my most agreeable duty to offer to this congress, just opened by His Royal Highness, a welcome on behalf of His Majesty's Government.

The congress includes so many men of great distinction that we feel it an honor to have you assembled amongst us.

Science is, in the true sense of the word, international. It has its controversies, but they are not national controversies.

Men of all nations who have risen to the plane of knowledge, thought, and research, that is worthy to be called science, are not separated in their work on that plane by political or national rivalries, however much individually they may share the politics and feelings of their respective nationalities or parties in other departments of life than that of science.

In regard to the science of medicine and surgery, we all have an individual interest in your work to an extent that hardly exists in the case of any other science.

As far as the public mind is concerned, science is in one respect fortunate to-day; the rock of lay ignorance is no longer so intractable as it was in earlier generations. So far as the public is concerned, opposition to scientific discoveries has given way to expectation. We are more ready to welcome a new discovery than to oppose it with an old error. At least I think this is so with regard to those forms of science with which this congress is especially concerned.

The Sovereign, the Government, and the nation would like to welcome you here with the greatest cordiality. We are all unfeignedly glad that London should be honored as the meeting-place of the congress, and by the presence of so many men of world-wide distinction, who have come from abroad to attend this congress and to join in adding knowledge, lustre, and fame to its discussions.

SIR THOMAS BARLOW'S ADDRESS.

Sir Thomas Barlow, in delivering his presidential address, said: My first duty is to express our gratitude to His Majesty the King for graciously consenting to be patron of the congress. My second duty is to thank His Royal Highness Prince Arthur for representing His Majesty on this occasion in the inauguration of the congress, and for the important and suggestive address which he has given us. My third duty is to acknowledge the kindness and consideration of Sir Edward Grey, the Minister of Foreign Affairs of this country, in the official welcome, and I may say the hearty welcome, which he has given to our foreign members.

A whole generation has passed away since the International Medical Congress last met in London. What a magnificent galaxy of talent in medicine, surgery, and pathology was gathered round the Prince of Wales, who was our Royal patron at that time! It is fitting that we should follow the admonition of Ecclesiasticus, and praise famous men and the fathers that begat us. Our president, Sir James Paget, was a great clinical path-

ologist. His mind was stored with all that was then known of the morbid anatomy of surgical disease and injury, and of the family relationships of the different diathesis. He was a splendid teacher, and possessed a lucid eloquence and a moral fervor not excelled by any of his contemporaries. Jenner and Gull, Wilks and Gairdner were our great teachers of clinical medicine. Each of them based his knowledge on the sure foundation of the post-mortem room and the hospital wards.

We shall not see their like again, for their careers began before the days of specialization, and they were amongst the last of the great general physicians of our time. Hughlings Jackson was the philosophical exponent of the new neurology. Many of his forecasts were verified by the experiments of David Ferrier, of which I may say there was a remarkable demonstration at the 1881 congress. Jonathan Hutchinson was the patient, accurate recorder of the natural history of disease in multitudinous departments, and, characteristically enough, he was the organizer of our congress clinical and pathological museum. The pioneers of abdominal surgery—Spencer Wells, Thomas Keith, and Lawson Tait—were with us. Huxley, the most brilliant expositor of natural science of his time, discoursed to us on the relations of medicine and biology. William Bowman, whose work on the minute anatomy of the eye was the foundation of modern English ophthalmology, was one of our most useful members. Last of all the Englishmen whom I will mention was our great Lister, then in the zenith of his grand career. He has but lately been taken from us in the fullness of years, and we commemorate him to-day in the medal of our congress.

Our foreign brethren were not less illustrious in the bed-roll of medical and surgical achievement. Virchow, the Nestor of morbid anatomy, honored and beloved by us as by his own countrymen, delivered a fine historical discourse on the value of pathological experiments. Volkmann gave a critical survey of the recent advances of surgery. Robert Koch gave what may truly be called a path-breaking demonstration of the microbial findings in several morbid conditions, and he illustrated their characteristic growth on different organic media. Von Langenbeck and Esmarch spoke for military surgery; Donders and Snellen for ophthalmology. Baccelli, Murri, and Pantaleoni represented Italian medicine. From the United States came Austin Flint, the accomplished physician and master of physical examination; Billings, prince of medical bibliographers; and Bigelow, the famous surgeon.

The great French school was represented by Brown-Séquard and Charcot, Lancereau and Bouchard and Verneuil and a host of others; but there was one great Frenchman with us who towered aloft amongst all his contemporaries, and who, though not a medical man, exercised by his discoveries a profound influence on the medicine of the world, and that was Louis Pasteur. In his address on vaccination in relation to chicken cholera and splenic fever, he gracefully linked his most recent researches with the time-honored labors of Edward Jenner on cow pox. Time fails me to speak of other great and honored names, but surely we may say there were giants in those days.

Now, let us realize to ourselves that the congress of 1881 marked not the parting of the ways, but emphasized the notable fact that the parting of the ways had already been passed. The times of superstition, of empiricism, and of transcendental speculation had vanished. But what of the period of accurate and detailed observation? That was neither superseded nor completed, but it was already supplemented and redirected into more fruitful channels by the new development of experimental methods.

If it had not been for the work of Pasteur, Lister, and Koch, which was expounded to us thirty years ago, how poverty-stricken would have been the output of medicine and surgery in this our congress of 1913! The great men—both observers and experimenters—of whom I have spoken were like mountain peaks towering above the plain of ordinary medical humanity, and we sometimes sadly ask where are the mountain peaks now? That is a shallow and unenlightened question. For indeed, thanks to the unremitting labors of workers in multitudinous paths, we have attained a glorious heritage—not of high mountain peaks and deep valleys—but a lofty and magnificent table-land of well-ordered and correlated knowledge.

In what ways have we pursued and expanded the work of our fathers? First, unquestionably, in the development and application of bacteriology. Koch's great discovery of the life history of the tubercle bacillus was published in the year after the London congress, and what an enormous body of knowledge has grown out of that discovery! We are learning to discriminate between the essential and casual factors of disease and the concomitants, such as combined and terminal infections. The by-products and the antibodies developed to neutralize bacterial life, of which we see the beneficent rôle in Nature's own cure of an acute specific disease, have been made to yield their share in two

important methods of treatment, namely, serotherapy and vaccine-therapy.

A RICH HARVEST.

We have also faced the problem of strengthening the phagocytosis of the patient. I need not dwell on the history of the Klebs-Loeffler bacillus and the causation of diphtheria, nor on the indubitable efficacy of the most important of all the anti-toxins, nor on the singular parallelism between the bacteriological findings in atypical throat exudations with the ambiguous symptomology which clinical observation reveals. Nor need I dwell on the extension of bacteriological investigation of typhoid fever, which has been fruitful in new measures of prophylaxis and defence of the community. We have learnt something about the natural history of the ultra-minute organisms which, as "filter passers," elude our microscopic investigation.

The detailed examination of the morphological elements and the chemical characters of the blood and of other body fluids has eventuated in the rewriting of some of our physiology, and the pathological extension of the knowledge thus gained has improved the diagnosis and treatment of several diseases. Thirty years ago Ord demonstrated to the congress of that time examples of the disease which he had defined as myxœdema, but which, with surer instinct, Gull had described as a cretinoid state in adults. The gradual evolution of the doctrine of thyroid insufficiency and of its therapeutics is a model of induction; and this important discovery has given a great impetus to the whole study of internal secretions, as well as to the employment of organic extracts of which the last and most interesting is that of the pituitary body.

A strong case has been made out for intestinal stasis as a cause of various forms of mal-nutrition and for operative measures in dealing with slight mechanical obstructions; on this subject we hope for further evidence. The additions to diagnosis yielded by X-ray exploration are like the creation of a fifth sense, and its curative applications and those of radium are the opening of a new chapter of therapeutics. I ventured to hint that medicine had now and then led to the rewriting of some chapters of physiology, and I may add that recent researches on diseases of the heart have led to the re-editing of neglected knowledge of the minute structure of heart muscle, and of orderly and disorderly mechanism of its movements.

Of the magnificent triumphs of the surgery of this generation it is beyond my power adequately to speak, but I can refer to the wide fields opened up through the beneficent protection of Lis-

terism. We are staggered by the reasoned and calculated audacity of our brethren when sinuses of the skull are drained, cerebral abscesses evacuated, cerebral tumors removed, the pituitary body even being investigated, when pleuro-pericardial adhesions are freed, to the great relief of the heart, when different parts of the alimentary canal are short-circuited, and when one or other damaged viscus is removed either entirely or in part. The active co-operation of surgeons and physicians has gained for us some knowledge of what Moynihan and others have happily described as "living pathology," and we gratefully acknowledge the valuable information of correlated symptoms, signs, and morbid conditions, and the statistics of comparative frequency which surgical experience has brought to the common store. The supreme gain after all is that many more useful lives are saved than in the last generation, that the realm of grave and hitherto incurable disease is invaded on every side, and that the danger of operation qua operation is retreating to a vanishing-point.

It is impossible even to enumerate the varied ways in which medicine has co-operated with economics, social legislation, and philanthropy, which we sum up briefly as public health. The schoolhouse and the scholars, the home of the poor, the colliery and the factory, the dangerous occupations, the sunless life of the mentally deficient, have benefited, and will benefit still more, by its friendly invasion. And I venture to foretell that not many years hence, every department of life and work shall be strengthened and purified and brightened by its genial and penetrating influence. Surely I have said more than enough to justify my contention that we have come into a goodly heritage, and that that heritage is like a lofty and magnificent tableland of knowledge and efficiency. The gaps are being filled; we are no longer isolated, but are working side by side on adjacent areas which are inseparably connected. Every day we gain fresh help from the auxiliary sciences, and we realize more and more the unity and universality of medicine.

Brethren from foreign lands, we thank you for the treasures, new and old, of observation and experiment, and of a ripe experience, which you have brought to this congress for the common weal. I venture to affirm that the output of work of the congress week in its twenty-three goodly volumes will astonish civilized countries by its amount and its solid worth. I welcome you to our dear country, this ancient home of freedom, and I speak not only for the medical men of the British Isles but for our brethren of the Overseas Dominions, who join with us in our cordial greet-

ing. May this congress add to the common store of fruitful and useful knowledge; may it increase our good fellowship, our mutual understanding and co-operation, and may it help to break down the barriers of race and country in the onward beneficent march of world medicine.

Among the Canadians registered were the following: Drs. W. H. B. Aikins, H. A. Bruce, Irving Cameron, G. A. Campbell, Milton Cotton, John Fotheringham, Andrew Gordon, Duncan Graham, Herbert Hamilton, A. Bruce Macalum, A. Byron Macalum, Thos. MacMahon, John W. S. McCullough, Playfair McMurrich, Alexander McPhedran, Maurice McPhedran, Samuel Moore, Alexander Primrose, R. D. Rudolf, J. R. Smith, King Smith, Clarence Starr, Jno. Stenhouse, G. H. Whitmore, Davis Wilson, B. P. Watson, of Toronto.

Drs. Maud Abbott, George Adami, Edward Archibald, H. S. Birkett, Gordon Campbell, Thos. Cotton, John Elder, Fred. Finley, Oskar Gruner, Jas. Guerin, S. Langevin, John McCrae, Colin Russell, Francis Shepherd, Grant Stewart, Alexander Stewart, Duncan MacTaggart, of Montreal.

Drs. Jno. Chabot, Chas. Hodgetts, Chas. Preston, and Col. Carleton Jones, of Ottawa.

Dr. W. B. Burnett, Jas. Farrish, Colin Graham, H. Lindsay, and Jno. Mellish, of Vancouver.

Dr. C. H. Reason and Hadley Williams, of London.

Drs. J. W. Campbell, W. T. Connell, and Jas. Third, of Kingston; Drs. Geo. Anderson, Harry Gibson, and W. Lincoln, of Calgary; Drs. A. J. Burridge and A. Campbell, of Winnipeg; Dr. John Collison, of Alberta; Dr. Reginald Digby, Brantford; Dr. D. F. Harris, Halifax; Dr. C. W. Hoare, Walkerville; Dr. J. J. Lafrecue, Prince Albert, Sask.; Dr. Jno. Lapierre, Buckingham, Que.; Dr. Murray MacLaren, St. John, N.B.; Dr. McNeill, Battleford, Sask.; Dr. Ochs, Preston; Dr. Ramsay, Quebec; Dr. Wallace, Metcalfe; Dr. Wells, Edmonton.

MEDICAL COUNCIL OF CANADA

First Announcement, July 1st, 1913, Relating to Registration
Under the Canada Medical Act, and the Examination for
the License of the Medical Council of Canada.

GENERAL NOTICES.

The following announcements are made under the provisions of the Canada Medical Act (1-2 George V., Chap. 16), endorsed and supplemented by the Acts passed by the various Provincial Legislatures of Canada:

(a) Any person who secures registration on the Medical Register of Canada by examination is entitled to register without further examination, in any Province of Canada, on complying with the necessary regulations pertaining thereto, including the payment of the Provincial registration fee.

(b) Any person who was duly registered in any Province of Canada prior to the seventh day of November, 1912 (the date under which the Medical Council of Canada was first legally constituted under the Canada Medical Act), but who was not so registered ten years prior to the seventh day of November, 1912, may be registered on the Medical Register of Canada, either by examination, or without examination, on the completion of ten years after the date of his Provincial registration.

(c) Any person whose first Provincial Registration is subsequent to the seventh day of November, 1912, can become registered under the Canada Medical Act only by passing the examinations of the Medical Council of Canada.

(d) Any person who secured registration on the Medical Register of Canada by Provincial Registration of ten years' standing (Sec. 18, Clause 2, Can. Med. Act), is entitled to register without further examination in any province of Canada on payment of the necessary fee, and subject to the following proviso of Sec. 18, Clause 2, of the Canada Medical Act.

"Provided that if the Medical Council of any Province is not satisfied with the period of years prescribed by the sub-section, such Medical Council may, as a condition to Provincial Registration, exact an examination in final subjects from practitioners registered under this sub-section, and the said examination shall be held according to the provisions of the by-laws or rules of the respective Provincial Councils."

REGISTRATION.

Those entitled to register without examination:

Any person who, on or before the 7th of November, 1912, was the holder of a license or certificate in any Province of Canada, and who has been in active practice in Canada, shall, ten years after such Provincial registration, be entitled to register without examination.

Certificates in blank will be provided by the Registrar of the Medical Council of Canada, upon application.

Form of Certificate:

I hereby apply to be registered on the Register of the Medical Council of Canada under Section 18, Clause 2, of the Canada Medical Act.

I received a certificate of Registration in the Province of , on ,
proof of which I herewith present, and have since been engaged
in the active practice of medicine at
.....
.....

Applicant.

I hereby certify that I know the above-named applicant and attest the correctness of the above declaration.

.....
Registrar,

Coll. of Phys. & Surgs. of

Dated

A form of affidavit, and a photograph of the applicant for purposes of identification, shall be attached to certificates from candidates for registration or examination.

EXAMINATIONS.

1. The Council shall, at its annual meeting, determine the place or places and dates for the next examinations of the Council, and shall appoint the examiners necessary for the proper conduct thereof.

2. Candidates for the examinations of the Council must present either (a) license of a Provincial Medical Council or Board of Examiners, or (b) a certificate from the Registrar of a Provincial Medical Council, or Board, that the requirements of that Council or Board in regard to preliminary education, matriculation, medical curriculum and graduation have been complied with.

Certificates in blank will be provided by the Registrar of the Medical Council of Canada upon application.

Form of Certificate:

This certifies that of
is a graduate in medicine of University or
Medical School, and has complied with all the requirements of
the Medical Council, or Board, of the Province of
relating to preliminary education, matriculation, medical cur-
riculum and graduation, and is eligible as a candidate for the
examination for license to practise medicine in the Province
of

.....
Registrar,

Coll. of Phys. & Surgs. of.....

3. Applications for examinations, together with the neces-
sary certificates and fee, must be deposited with the Registrar
at least four weeks before the date set for the commencement
of the Examinations.

4. Candidates who hold diplomas obtained outside of Can-
ada must present certificates from the Registrar of a Provincial
Medical Council the same as is required of graduates of the
Canadian Universities.

5. No member of the Medical Council of Canada shall act
as an examiner or as a Deputy Registrar for the Council.

6. The Council shall determine from time to time the sub-
jects for examination, and shall adopt rules and regulations
for the guidance of the Registrar, Deputy-Registrar, Board of
Examiners, and for candidates when in the examination hall.

7. The qualification granted by the Medical Council of Can-
ada shall be known as the "License of the Medical Council of
Canada." (L.M.C.C.)

8. Candidates who intend to be examined by the examiners
in Homeopathies shall signify their intention to the Registrar
at least four weeks before the commencement of the Examina-
tions. These candidates shall be examined in Therapeutics, and
in all examinations where Therapeutics are involved, by exam-
iners approved by the majority of the Homeopathic represent-
atives in the Council.

SUBJECTS OF EXAMINATIONS.

9. (a) Physiology.
- (b) Anatomy.
- (c) Hygiene and Public Health.
- (d) Pathology and Bacteriology.
- (e) Midwifery and Gynæcology.
- (f) Surgery.
- (g) Medicine, including Therapeutics.

10. The examination shall consist of two examinations in each subject:

1. Written.

2. (a) Clinical in the subjects of Medicine and Surgery.

(b) Oral in the subjects of:

Physiology.

Anatomy.

Hygiene and Public Health.

Pathology and Bacteriology.

Midwifery and Gynæcology.

11. Sixty per cent. of the marks in each of the examinations in each subject shall be required to pass.

12. A candidate who fails in not more than two of the subjects of examination may present himself at a subsequent examination for those subjects in which he has failed. Failure in more than two subjects will necessitate re-examination in all subjects.

13. The values awarded by the examiners to the answers of the candidates are not to be subject to revision.

RULES FOR CANDIDATES WHEN IN THE EXAMINATION HALL.

14. Each candidate must produce evidence of his identification satisfactory to the Registrar, or to the Deputy Registrar.

15. Each candidate shall receive from the Registrar a programme containing a list of subjects upon which the candidate is to be examined, and it will admit the candidate to the examination hall during the progress of the examinations upon such subjects, but at no other time.

16. Candidates must write the answers to the questions given by the examiners legibly and neatly, on one side only of the page of the paper, which will be furnished in book form to each candidate, and the number given with each question is to be put at the head of the answer to it. When a candidate has finished writing he shall write his name in ink on the slip of paper which shall have been temporarily attached to the first page of the book for that purpose, and shall then hand the book to the Registrar. Neither signature, number nor sign by which the writer could be recognized by the examiner, is to be written or marked on any portion of the book.

17. No candidate will be allowed to leave the hall for half an hour after the questions have been given out, except by special permission of the Examiner, and then only when accompanied by someone, and no candidate shall be admitted after that time.

18. No person shall be allowed in the hall during the hours of examination, except those who are actually undergoing

examination, or members of the Council, or officials connected therewith.

19. Any candidate who may have brought any book or paper into the hall must deposit it with the Registrar before the examination begins.

20. Candidates must not communicate with each other while examinations are going on in any manner whatever.

21. Candidates must bear themselves towards the Registrar, or Deputy-Registrar, and Examiners, with deference and respect, and must conduct themselves with decorum while an examination is going on. They will be held strictly responsible for any impropriety of conduct during the whole progress of the written and oral examinations.

22. Any infraction of the above rules will lead to the exclusion of the candidate who is guilty of it, from the remainder of the examination, and he will not receive credit for an examination paper which may have been handed in to the Registrar previous to his being detected in misconduct; and he may be debarred from further privileges at the discretion of the Council.

FEES.

23. The fee for the examination, including subsequent registration, shall be One Hundred Dollars (\$100). In cases of failure requiring re-examination, half of the original fee, that is, Fifty Dollars (\$50), will be payable.

24. No candidate shall be admitted to any examination until the fee for such examination has been paid in full.

25. All fees must be paid in lawful money of Canada to the Registrar of the Council.

26. Any person who has received a license or certificate of registration in any Province previous to November 7th, 1912, and who has been engaged in the active practice of medicine in any one or more Provinces of Canada, shall, after ten years from the date of such license or certificate, be entitled to be registered without examination, upon payment of the sum of One Hundred Dollars (\$100).

EXAMINATIONS, 1913.

The examinations this year will be held at Montreal only, on October 7th and following days.

Application for admittance to the examination, together with certificate and required fee, which is one hundred dollars, must be in the hands of the Registrar not later than September the 9th, 1913.

Certificate forms will be supplied by the Registrar on application.

R. W. POWELL, M.D.,

180 Cooper St., Ottawa.

Registrar.

NEWS ITEMS

Sir Rickman Godlee, President of the Royal College of Surgeons, England, has accepted an invitation to visit Chicago to assist in the formation of the American College of Surgeons. A deputation, consisting of Dr. H. J. Hamilton, President; Dr. R. A. Reeve, Past President; Dr. H. B. Anderson, Vice-President, and Drs. W. H. B. Aikins, Jno. T. Fotheringham and Herbert Bruce, members of the Council, waited on Sir Rickman August 12th and, on behalf of the Academy of Medicine, invited him to visit Toronto while in America. He has consented to do so, and it is expected that he will deliver an address on or about November 7th.

Miss Ethel Bayly has opened the Elmhurst Hospital at 33 St. Vincent St., Toronto, obstetrical and medical cases especially.

The new Brant Sanitarium, recently built at a cost of \$28,000, largely by local subscribers in Brantford, was formally opened August 2nd. Miss Crindle, late of Mount Forest, is head nurse, and Miss Bodding, of Montreal, assistant.

The next meeting of the American Association of Gynæcologists and Obstetricians will be held at Providence, R.I., September 16, 17, 18, 1913, under the presidency of Dr. Miles F. Porter, Fort Wayne, Ind. The meeting will be held in the Hotel Narragansett.

The Fourth Clinical Congress of Surgeons of North America will be held in Chicago, November 10-15. The first congress was held in Chicago in 1910, with an attendance of 1,200; the second congress in Philadelphia in November of 1911 with an attendance of about 1,500; the third congress was held in New York in 1912 with an attendance of over 2,500. A large attendance is expected at the coming meeting, and a canvass of the facilities of the hospitals and medical schools demonstrates that from 2,500 to 3,000 can be comfortably accommodated at that time.

Obituary

FREDERICK FENTON, M.D.

With the deepest grief we have to record the death of Dr. Frederick Fenton, of Toronto, which occurred on the 27th of July, in the 43rd year of his age. He developed appendicitis and underwent an operation at the Wellesley Hospital, July 21. He appeared to be doing well for a few days, but grew worse on July 25 and 26. As there were serious symptoms of obstruction, on July 27 a second operation was performed, but with no good results, as he died shortly after its completion.

We shall not attempt to go into details as to the shock which was produced by the news of his death. One of the questions from many tongues was this: "Is it possible that Fred Fenton, who has been so busy, active, energetic and robust in appearance for the last twenty years, whom we saw a few days ago in apparently perfect health, is dead?" It is generally recognized that his death is one of the most distressing tragedies which has occurred among medical men in Canada. Of him it could be said with absolute sincerity that he was most sincerely beloved by those who knew him longest and most intimately.

He received his medical education in Trinity Medical College and graduated M.D. from Trinity University in 1892. After graduating he spent a year as Resident Intern in the Toronto General Hospital. Very soon after graduating he joined the staff of the Trinity Medical College, where he worked most assiduously and gained a reputation as an excellent teacher, and before the amalgamation he was a teacher of histology and clinical obstetrics in the General Hospital. After amalgamation he was made Chief of the Obstetrical and Gynæcological Department at St. Michael's Hospital. He was also appointed Associate in Obstetrics in the Medical Faculty of the University of Toronto. He paid special attention to obstetrics and gynæcology. After a struggle in private practice for some years he came to the top very quickly, and acquired a large and lucrative practice. He was especially skilful as an operator in obstetrical, gynæcological and abdominal diseases.

He was extremely popular with his patients, who looked upon him not only as a skilful physician and surgeon, but also as an exceedingly kind and dearly beloved friend. We extend our heartfelt sympathy to his surviving relatives and especially to Mrs. Fenton and to two dear children, one a boy of nine years and the other a girl two years old.

JAMES WHITE, M.A., M.D.

Dr. James White, of Hamilton, died August 17, aged 65. He was one of the most prominent physicians of that city, and was well known throughout the Province of Ontario. He received his preliminary education in the public schools of Hamilton, Bishop's College, Lennoxville, Que., and Upper Canada College. He took the Arts and Medical courses in the University of Toronto. He received the following degrees from that University: B.A., in 1872; M.A., in 1873; M.B., in 1875, and M.D., in 1877. After graduating in medicine, he did post-graduate work in London and Edinburgh. On his return to Canada he commenced practice in his native city, Hamilton, and continued his professional work there up to the time of his last illness. He was the first president of the Hamilton Medical Association, which was formed in 1899. His fellow-students in both Arts and Medicine in the University of Toronto were very fond of "Jim White." He was an able physician, was very highly respected by all classes in the City of Hamilton, and was much beloved by his patients, who had implicit confidence in his good judgment. He was ill for some months, and confined to his bed for several weeks. He was deservedly popular with his host of professional friends in all parts of Canada. James White was one of those we always liked to meet, and we will miss him more than we can tell.

JAMES B. NEFF, M.D.

Dr. Neff, of Port Colborne, died June 27th at 77. He practised in that town for about fifty years.

McLEAN CAVERLEY, M.D.

Dr. Caverley, of Trenton, died from pneumonia June 8th. He graduated M.D. from Trinity University in 1890. Before going to Trenton, he practised for some years in Belleville.

JOHN J. MULHERON, M.D.

Dr. J. J. Mulheron, a prominent physician of Detroit, died at his home in that city, August 1st, aged 67. He was born in London, Ontario, in 1846, and received his preliminary education in the Waterloo Grammar School and Rockwood Academy. He then went to the United States and took a course in medicine in the University of Michigan. He commenced practice in Detroit in 1870, and continued his regular professional work in that place up to the time of his last illness.

Personals

Dr. Donald McGillivray spent his holidays at Lake Couchiching.

Dr. Geo. W. Ross, of Toronto, spent the month of August at Algonquin Park.

Dr. Kennedy McIlwraith spent the month of August at Stony Lake, Ont.

Dr. R. J. Dwyer left on August 7th for a canoe trip of two months in the far north country.

Prof. Irving H. Cameron spent about three weeks motor touring in Scotland before attending the Congress in London.

Dr. Edmund E. King spent the month of August at his summer residence, "The Pines," Hastings, Ont., on the River Trent.

The first examination of the Medical Council of Canada will be held in Montreal on October 7th and following days. For particulars refer to our advertising pages.

Dr. Herbert J. Hamilton, President-elect of the Toronto Academy of Medicine, returned home September 1st, after attending the International Congress of Medicine in London.

We beg to call the attention of our readers to the advertisement in this Journal for the vacancy of Medical Superintendent in the Alexandra Hospital, Montreal. Send applications to E. A. Barton, Secretary.

Dr. W. E. Ogden has been in London since September last, engaged in post-graduate study in general medicine, chiefly at St. Bartholomew's Hospital. After attending the meeting of the British Medical Association at Brighton and the International Congress in London, he intends going to Paris and Vienna for further studies.

Dr. Jno. W. S. McCullough, of Toronto, and Dr. Chas Hodgetts, of Ottawa, who are studying sewage systems in Great Britain and the continent, have visited Liverpool, Manchester, Leeds, Glasgow, Edinburgh, York, London, and two or three cities on the continent. They have been studying certain points in connection with hospitals as well. They expected to return home about August 30th.

Book Reviews

A Clinical System of Tuberculosis. Describing all forms of the Disease. By DR. B. BANDELIER, Medical Director to the Sanatorium Schwarzwaldheim, at Schomberg, near Wildbad; and DR. P. ROEPKE, Medical Director to the Sanatorium for Railway Workers, at Stadtwald, in Melsungen, near Cassel. Translated from the second German edition by G. BERTRAM HUNT, M.D., B.S., late Physician to the Scarborough Hospital. The Macmillan Company of Canada, Ltd., Toronto. 1913.

The advantages of a book in which all forms of tuberculosis are considered together must be obvious to all. The original German edition of this work has met with a most gratifying success, and we are sure the English translation will be similarly welcomed. Indeed, we know of no work on the subject which takes up the disease from such a broad standpoint.

The book is divided into sections, these again being subdivided into chapters. Section I. deals with the etiology of the disease, and subsequent sections take up the disease as it affects the lungs, pleura, digestive tract, urogenital organs, etc. A special section is devoted to the disease as it occurs in children. Finally, a complete list of authorities is appended.

The work is well illustrated with several excellent plates. The translator has done his work well, and made the book most interesting reading in English. We can heartily commend it for the excellent way in which it takes up this disease, so common, and yet so varied in its manifestations.

Therapeutics of Internal Diseases. Edited by FREDERICK FORCHHEIMER, M.D., Sc.D. (Harv.); Professor of Medicine, Medical Department, University of Cincinnati (Ohio-Miami Medical College). Volume II. New York and London: D. Appleton & Company. 1913.

The second volume of this exhaustive system of treatment takes up the therapeutics of the Infectious Diseases, the Intoxications, and Constitutional Diseases. The articles are all writ-

ten by men whose names are recognized as authorities on their subjects, such as Shattuck, who discusses Typhoid Fever; Ruhräle, Forchheimer himself (measles and German measles), Duval, William H. Park, Gottheil (Syphilis), King (Tuberculosis). Among the articles on Intoxications, we note several excellent ones by A. D. Blackader, of Montreal. Anders, of Philadelphia, takes up the debatable subject of Intestinal Auto-intoxication. Charles Lyman Greene and David Riesman contribute largely to the treatment of the Constitutional Diseases.

These examples will give some idea of the high standard maintained throughout by the editor of this system. We are sure that nowhere can one find such a store of useful therapeutic information, and that the profession will not be slow to realize the value of this work.

Headache. Its Varieties, Their Nature, Recognition and Treatment. A Theoretical and Practical Treatise for Students and Practitioners. By DR. SIEGMUND AUERBACH, Chief of the Polyclinic for Nervous Diseases in Frankfurt, A.M. Translated by ERNEST PLAYFAIR, M.B., M.R.C.P. London: Henry Frowde, Oxford University Press, Warwick Sq., E.C. 1913 Toronto: D. T. McAinsh & Co. Price, \$1.50.

We have read this little book with much profit. It deals with a symptom which one is constantly called upon to treat in practice, and only too frequently one is apt not to look too closely for the underlying cause.

The author first takes up methods of examination, and then proceeds with the study of the different forms of headache. These he divides into : (1) Independent forms, as Migraine, Neurasthenic Headache, and Nodular or Rheumatic Headache. (2) Headaches associated with diseases of individual organs. (3) Headaches in general diseases. (4) Combined forms. A great deal of importance is attached by Auerbach to the Nodular or Rheumatic Headache, which he seems to consider very common. A bibliography is appended.

The translator has done his work well, and given us a most readable English translation. We can heartily recommend this new addition to the Oxford Medical Manuals, as being an eminently useful and practical monograph.

Coprostasis, Its Causes, Prevention and Treatment. By SIR JAMES SAWYER, M.D., Consulting Physician to the Queen's Hospital, Birmingham. Birmingham: Cornish Bros. 1912.

In this small volume are gathered together papers which the author has written on various phases of the subject from time to time. Some are in the form of clinical lectures. As is truly remarked in the preface, constipation is a complaint which, perhaps more frequently than any other, the practitioner is called upon to treat. Stress is laid on the fact that each case requires a thorough investigation, so that, if possible, the etiology may be discerned. Routine treatment is to be condemned. Drugs occupy the smallest part in the treatment. Many excellent suggestions are made, and we feel sure that the physician will be well repaid for a careful perusal of this interesting little monograph.

Surgery. Its Principles and Practice. In six volumes. By 66 eminent surgeons. Edited by W. W. KEEN, M.D., LL.D., Hon. F.R.C.S. Eng. and Edin., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College. Philadelphia. Volume VI. With 519 illustrations, 22 of them in color. Per volume: cloth, \$7.00; half morocco, \$8.00 net. Canadian Agents: The J. F. Hartz Co., Ltd., Toronto. W. B. Saunders Company, Philadelphia and London.

The concluding volume and general index of this most excellent System of Surgery is at hand. It describes the newest surgery; that is, the surgery that has developed during the progress of this work through the press, and there is no branch of medicine that has made more rapid strides the last few years than surgery.

It is impossible to review these many improvements, but we can distinctly refer to the chapter by Dr. George W. Crile, of Cleveland, who is at the present time doing such wonderful work in fathoming the causes and treatment of shock. In the chapter entitled "Anoci-Association" he describes very minutely this new principle in surgery, and incidentally, when one can remember that the percentage of deaths in his hospital practice during the past year was less than 2% in over 2,000 cases, it causes us to stop and think that he must be on the right line.

Surgery of the Hypophysis is treated by Drs. Lewis and Kanavel in a very elaborate way, and while this particular

branch of surgery will never develop in the work of any but the specialist, at the same time the details and literature are well to be acquainted with, so that suitable cases may be properly directed.

Dr. Mayo, of Rochester, Minn., has two chapters on Thyroids and Para-thyroids. A very interesting and instructive chapter supplementing the previous Chapter XLII. by Dr. J. M. Finney on the surgery of the breast, giving the experience of Handley's operation, is another step forward in the treatment of cancer of the breast.

This whole volume is rich in the very latest information, and even with the rapid advancement during the past few years, the editor of this volume, with the aid of his brilliant collaborateurs, has been able to bring the System (the first volume began in 1906) really up to date.

The publishers are to be congratulated on the excellence of the work, both typographical and illustrative. No trouble or expense has been spared in making these volumes perfect, and the way they have been received by the profession is surely a pleasing reward.

The Labyrinth. An Aid to the Study of Diseases of the Internal Ear. By ALFRED BRAUN, M.D., New York, and ISIDORE FRIESNER, M.D., New York. Cloth, 250 pages, \$4.00 net. Rebman Company, 1123 Broadway, New York, 1913.

Drs. Braun and Friesner are to be commended on giving us, as they state in their foreword, "a groundwork upon which to base our further study. It is necessary for us all to become familiar with those basic truths regarding labyrinthine disease which have thus far been established beyond doubt," as this study is still so largely in the developmental stage.

The first chapter is given up to the bony static labyrinth (vestibule and the semi-circular canals) and cochlea. The minute anatomy is given in a very interesting and readable way.

The physiology of the static labyrinth and methods of examination for disease and defects of equilibrium are given with careful differential diagnosis of troubles in the semi-circulars.

The authors have drawn quite freely from other authorities in describing the types, treatment and prognosis of the varied pathological condition.

A wide knowledge and painstaking investigation are shown throughout the book. The work is well illustrated and the type clear and very readable.

Fibroids of the Uterus: Their Pathology and Treatment. By SIR JOHN BLAND-SUTTON, Surgeon to the Middlesex Hospital. With 240 pages and 39 illustrations. Cloth, 4s. 6d. net. Science Reviews, Ltd., 36-38 Whitefriars St., London, E.C.

An emanation from the pen of Sir John Bland-Sutton, and incidentally here we wish to congratulate the distinguished author on the honor that has been conferred on him. We feel that the whole profession has been honored.

The whole subject of fibroids is of such great and universal importance that it is well to have the matter of histology, pathology and treatment dealt with by so experienced a gentleman. After reading this volume one feels that they have reviewed the literature and read the comments by an author that is second to none on tumors, their cause and effect.

This volume should be in the hands of all general practitioners. It would lead them from pitfalls and be of great aid in the treatment of this common and very troublesome condition.

This volume is bound in flexible leather, which makes it exceedingly convenient to handle.

The Physiology of Protein Metabolism. By E. P. CATHCART, M.D., D.Sc., Grieve Lecturer on Chemical Physiology in the University of Glasgow; Research Associate of the Carnegie Institution, Washington. Longmans, Green & Co., 39 Paternoster Row, London.

This monograph forms one of a series to be issued under the editorship of R. H. A. Plimmer, D.Sc., and F. G. Hopkins, M.A., M.B., D.Sc., F.R.S., dealing with various problems of Biochemistry.

The subject of Protein Metabolism is one upon which more work has been done than any other. Naturally, in such a volume as this no attempt is made to cover the whole field. Rather, the more important recent results of investigations are taken up, and their relationship to the older views held, discussed.

A most complete bibliography is one of the features of the series.

To one interested in physiological problems, we can conceive of nothing more valuable than such a series of publications, of which this is the first to appear.

A Text-Book of Biology. For Students in Medical, Technical and General Courses. By WILLIAM MARTIN SMALLWOOD, Ph.D. (Harvard), Professor of Comparative Anatomy in the Liberal Arts College of Syracuse University, and in charge of Forest Zoology in the New York State College of Forestry at Syracuse. Illustrated with 243 engravings and 13 plates in colors and monochrome. Lea & Febiger, Philadelphia, 1913.

It is recognized nowadays, without exception, that a thorough grounding in the elementary sciences is absolutely essential to the study of modern scientific medicine. But this does not mean that physics, chemistry and biology are to be presented as pure abstruse sciences. Rather, the endeavor should be made to bring them before the student in such a way that he will be able to see clearly the important bearing these subjects have on the advanced and clinical portion of the medical curriculum.

The book before us is the result of an effort to prepare a book on biology to answer such a purpose, and we think the author has quite succeeded in his object. The early chapters take up the study of the organism as a whole, the structure and functions of organs, etc. One chapter is devoted to the rôle of certain organisms in disease, while the concluding portion of the book deals with biological problems, such as evolution and heredity. The work is well illustrated, and is adapted for use in the laboratory. We consider it a valuable student's book.

The Nauheim Treatment of Diseases of the Heart and Circulation. By LESLIE THORNE THORNE, M.D., B.S. Durham, M.R.C.S. Eng., L.R.C.P. Lond.; Consulting Physician (in London) to the St. John's House of Rest, Mentone late Medical Examiner, London County Council Technical Education Board. Fourth Edition. London: Bailliere, Tindall & Cox, 8 Henrietta St., Covent Garden. 1913.

The necessity for the publication of a reliable book on the Nauheim Treatment is shown by the appearance of this fourth edition of Dr. Thorne's monograph. There is a great deal of misconception among members of the profession as to the method and use of this most useful adjunct in the treatment of so many circulatory conditions.

The book is divided into four parts, dealing with the action and administration of the baths, descriptions of the exercises,

the proper selection of cases, and examples of cases. The point is made that it is by no means necessary to go to Nauheim to have the treatment, which can be given quite as well at home.

A careful study of this little book will, we feel sure, go far towards rendering the Nauheim Treatment better understood and more appreciated among the general body of the profession.

Hygiene and Sanitation. A Text-Book for Nurses. By GEORGE M. PRICE, M.D., Author of "A Hand-Book on Sanitation," etc., etc.; Director Joint Board of Sanitary Control; Director of Investigation, New York State Factory Commission. Lea & Febiger, Philadelphia and New York. 1913.

Of recent years the nurse has come into a new sphere of activity, that is, as assistant to medical health departments in the capacity of school nurse, dispensary nurse, or visiting nurse to instruct people in the proper methods of living so as to prevent disease. Thus a knowledge of sanitary science is essential for the modern nurse. This admirable member of "The Nurses' Text-Book Series" takes up in not too technical a manner the essentials of public and personal hygiene. It touches on the dwelling, foods, the school, various industries, control of infections, etc., and conveys in a readily assimilable form a great deal of useful information. It answers to the fullest extent the purpose for which it was written, and we can recommend its careful study to all the members of our nurses' training schools.

Sex. Its Origin and Determination. A Study of the Metabolic Cycle and Its Influence in the Origin and Determination of Sex, the Course of Acute Disease, Parturition, etc. By THOMAS E. REED, M.D., Middletown, Ohio, U.S.A. New York: Rebman Company, Herald Square Building, 141-145 West 36th Street.

Many and varied have been the theories as to the determination of the sex of the unborn child. This book presents a view that is startlingly original, and whether one agrees or not with its author, one must admit that a most interesting treatise has been produced in its support. Briefly, Dr. Reed believes that the sex depends on the period of time in the day during which

conception takes place. These periods of time are divided into positive and negative phases, and these are related to the tidal flow and ebb. In explanation of the theory, he takes us back to the beginnings of all things. The earliest living organism in its sea-water environment was exposed to the influence of the tides, and all through the periods of evolution this influence has persisted.

We will not go further into details, but we can assure our readers that they will spend a most interesting time in reading and considering this addition to the other excellent volumes on these biological problems of sex which have already appeared from the Rebman Press.

BOOKS RECEIVED

Diseases of the Stomach. Including Dietetic and Medicinal Treatment. By GEORGE ROE LOCKWOOD, M.D., Professor of Clinical Medicine in the Columbia University; Attending Physician to Bellevue Hospital, New York. Illustrated with 125 engravings and 15 plates. Lea & Febiger, Philadelphia. 1913.

A Course in Normal Histology. A Guide for Practical Instruction in Histology and Microscopic Anatomy. By RUDOLF KRAUSE, A.O., Professor of Anatomy at the University of Berlin. Translation from the German by PHILIP J. R. SCHMAHL, M.D., New York. With 30 illustrations in text and 208 colored pictures, arranged on 98 plates after the original drawings by the author. New York: Rebman Company, 1123 Broadway.

Applied Anatomy. The Construction of the Human Body Considered in Relation to Its Functions, etc. By GWILYM G. DAVIS, Associate Professor of Applied Anatomy, University of Pennsylvania, M.D., Universities of Pennsylvania and Goettingen; Member of the Royal College of Surgeons of England, Philadelphia College of Physicians, and the American Academy of Medicine. With 630 illustrations, mostly from original dissections and many in color. By ERWIN F. FABER. Philadelphia: J. B. Lippincott Company.

Nourishment— Minimum Waste

There are disease-conditions wherein loss of tissue (and its attendant impairment of vital energy) makes it imperative that speedy and efficient nourishment be supplied, in order that the metabolic balance may be turned in favor of the patient.

The logical and ideal means of bringing about such an issue is food, which, while supplying the needed nourishment, is particularly easily digestible and contains a minimum of waste material to be separated from true nourishment by the already weakened digestive organs.

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and cream, in such proportion as the attending physician finds indicated to supply the element of fat, seem fully to meet the above ideal requirements, as has been attested by thousands of physicians for a decade or more.

Made of selected whole wheat and malted barley, Grape-Nuts contains all the food material of these nutritious cereals—including the phosphates usually lacking in ordinary bread made from white flour.

The processes of manufacturing this famous food insure perfect baking and full sterilization. The starches are broken down and in large measure converted into dextrine and dextrose (soluble carbohydrates) for easy and prompt assimilation.

There is little waste in Grape-Nuts—the food being absorbed in about ONE HOUR after ingestion. The firm, hard granules entail deliberate mastication, and the results are reliable as has been established for many years.

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Also the *Clinical Record*, for physicians bedside use, will be mailed to those who have not already received it.

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Miscellaneous.

Alopecia and Exophthalmic Goitre

Sabouraud (*Ann. de dermat. et de syph.*), in this memoir, reaches the following conclusions: (1) There are some types of alopecia, usually most chronic and resistant to treatment, which appear to be directly related to Basedow's disease; (2) some of them are aggravated by its onset, others improve as the classical symptoms of the syndrome develop; (3) children of the patients with exophthalmic goitre present evidence at times of a thyroid inefficiency, and may develop alopecia without vitiligo, or vitiligo without alopecia; (4) we know nothing definite concerning the relations of the various thyroid symptoms with alopecia, except that such relations undoubtedly exist; (5) it is remarkable that, although we are ignorant of the immediate causation of alopecia, we cannot deny the genetic influences of two great "internal secretion" glands—the ovary and the thyroid body.—*B. M. J.*

Bacteriology of Tonsillar Affections

During recent years the idea that the streptococci which require hæmoglobin for artificial culture, and which act lytically on the pigment, possess much greater pathogenic qualities than non-hæmolytic streptococci, has gained marked support, especially from gynæcologists. F. Henke and H. Richter (*Berl. klin. Woch.*) have investigated this question in connection with the bacteria found in the tonsils under normal and pathological conditions. They state that the normal tonsil frequently harbors both hæmolytic and non-hæmolytic streptococci. This, therefore, throws some doubt on the sharp distinction between these groups in respect to pathogenicity. Their studies, however, go much farther, and show distinctly that non-hæmolytic streptococci may be distinctly pathogenic and virulent. Both groups may give rise to mild and severe tonsillitis and peritonsillar affections, and may lead to fatal general infections. They have met with 15 lethal infections of this kind due to non-hæmolytic streptococci. Zangemeister believed that the non-hæmolytic cocci living normally in the mouth could at any given time find their way into wounds, take on the quality of hæmolytic germs, and set up a dangerous infection. This they have disproved.

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Phlegmonous peritonitis is usually caused by streptococci, but after the process has lasted for some time it has been found that staphylococci may infect secondarily, and, by overgrowing the primary microbes, turn them out. These cases are at times caused by the hæmolytic and at times by the non-hæmolytic streptococci, and no clinical difference could be detected between the two groups of cases. The authors especially state that in their careful observations and experiments no connection could be discovered between the hæmolytic character of the cocci and the severity of the infection.—*B. M. J.*

A Systemic Boost

It is safe to say that the average physician is called upon to prescribe a tonic more frequently than any one other form of medication, unless it be a cathartic. Patients who are patients solely because they are tired, "run down" and generally debilitated, are constant visitors at the physician's office. Such individuals need something that will boost them up to their normal point of resistance and then hold them there: in other words, not a mere temporary stimulation, with secondary depression, but a permanent help to the revitalization of the blood and a general reconstruction. Pepto-Mangan (Gude) is not only prompt in action as an encourager of appetite and better spirits, but is also distinctly efficient as a blood builder and systemic reconstituent. It is pleasant, non-irritant, free from constipating effect and does not stain the teeth. It is thus a general constitutional tonic of positive service in all conditions of general devitalization.

Urticaria

Arthur W. Swann (*American Journal of the Medical Sciences*) reports upon the use of epinephrin in urticaria. In six cases thus treated by the subcutaneous administration of epinephrin, the injections were followed by a rapid disappearance of the erythema and wheals. The preparation employed was the 1:1000 solution of adrenalin chlorid. In each case a dose corresponding to about eight minims for an adult of 140 pounds was given hypodermically and the dose was repeated in ten minutes. Two doses sufficed in every instance to cause complete fading of the rash. An improvement was usually evident eight minutes after the initial dose, and was most marked between ten and twenty minutes, during which time, especially in the severe



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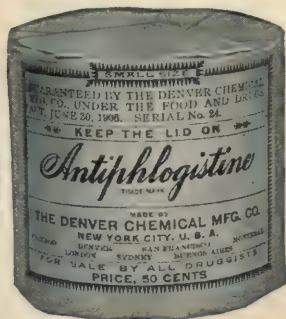
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cases, the rapidity with which eruption subsided was very striking. After twenty minutes there usually remained some erythematous blotches or small pale wheals, which continued to fade until the skin looked entirely normal. All itching ceased in from five to twenty minutes after the first dose. In one case the eruption did not return until three days later, when epinephrin was again given. In another case it recurred in seven hours. In the three most severe cases, all of which were serum rashes, the wheals began to reappear in from one to two and a half hours after the initial dose of epinephrin, and increased steadily for from one to three hours more, when the eruption was again at its height. There is no doubt that if the exciting cause of the urticaria is still sufficiently active, the wheals will recur in an hour or two unless the treatment is continued. It will be interesting to see whether or not the condition can be relieved for longer periods or even permanently by repeated and properly regulated doses. From the results obtained in these six cases of urticaria it seems probable that in such cases the vessels in the wheal are in a state of optimal tonus for the action of the epinephrin, and that on them the drug has an unusual and selective effect. The effect produced in these cases of urticaria suggests that epinephrin might be used to advantage in certain more serious yet similar conditions. One such condition is angioneurotic œdema in its various forms. In cases of œdema of the epiglottis or larynx due to disturbance of this type, epinephrin given intravenously, if its action were similar to what it has been in the cases of urticaria, might well be the means of saving life, when the local application of the drug and other measures had failed. Another such condition is anaphylaxis, with severe bronchial spasm and œdema.—*The Medical Fortnightly*.

Tonsil Operations

We are evidently drawing near to the end of what seems to have been a veritable removal of tonsil epidemic. Judging from the trend of present opinion and thought on the subject, the wholesale destruction of the tonsil will soon be a matter of the past. Recently the section in laryngology of the New York Academy of Medicine was asked by the Associated Outpatient Clinics of the City of New York to advise them whether the widespread practice of tonsil extirpation should be continued; whether the medical school inspectors should urge upon the parents of the children the desirability of tonsil operations, and whether such operations should be performed in dispensaries.

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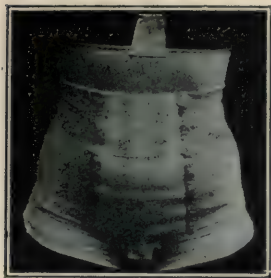
NEW YORK, U. S. A.

The school doctors and nurses have been conducting what virtually amounted to a crusade against the tonsil. They recommended that tonsils be cut out when there was the slightest excuse for it, and, as a result, many ignorant parents insisted that this be done even when the advice of the laryngologist consulted was to the contrary. The dispensaries are swamped with cases of hypertrophied tonsils. The work is often done in a slipshod fashion, very frequently without anaesthesia, and in places where no recovery rooms are available. Numbers of cases are known to have been followed by serious hæmorrhages, some ending fatally.

The report of the section in laryngology in answer to the above stated questions is significant and instructive. In the first place, the great majority of the members of the section favor tonsillectomy, as against tonsillotomy. Secondly, they have come out strongly against the ill-advised insistence on tonsil removal on the part of the school inspectors; and, thirdly, they have taken an unmistakable attitude against the performance of either tonsillectomy or tonsillotomy in dispensaries. Both of these operations are considered major operations which should have the facilities of a hospital.—*New York Medical Journal*.

Some Abuses in Surgical Practice

H. Gage (*Boston Medical and Surgical Journal*) notes that the glamor of surgery, its directness of attack, and its tangible results make it particularly attractive to all medical students, and inspire the majority of them with an ambition to practise it. Surgery, too, occupies by far the larger part of our hospital equipment, and has led to the establishment of numerous small community hospitals, which are chiefly surgical, one of the most obvious results of which has been that the local practitioner feels obliged to undertake surgery just as he feels obliged to undertake obstetrics in order to protect and develop his general practice. Sir Patrick Cullen's observation, "that chloroform has done a lot of harm, it has enabled every fool to become a surgeon," has become still less an exaggeration of the truth since the discovery of asepsis. Active interference has been invoked for the relief of all sorts of disorders, both functional and organic, in many cases with but little justification, and major surgery has been freely practised by men whose training and opportunities for the observation and interpretation of living pathology have been far from adequate. Moore is quoted as



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stating that "some operations should be radical, but no surgeon should be so." Hasty snap-shot diagnoses have certainly led to much ill-advised and unnecessary opening. It seems that the purely mechanical side of surgery has been receiving far too large a share of attention. One must not forget that "any operation which does not better the condition of the patient must be regarded as a therapeutic error," and that to possess a sound judgment as to the indications and counter-indications for operations, based upon a careful and thorough knowledge of the natural history of disease and of surgical pathology, is far more important and valuable than the acquirement of mere mechanical skill.—*New York Medical Record*.

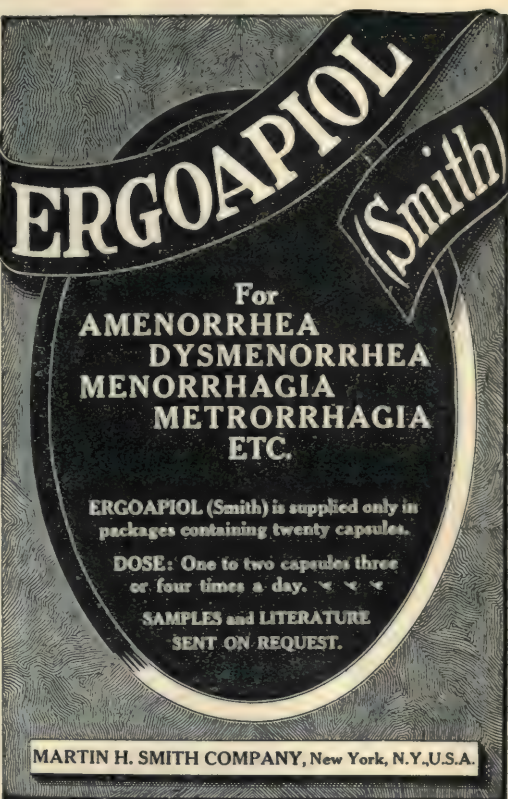
Bacillus of Whooping-Cough

Last summer, while going over the necropsy report from a case of whooping-cough microscopically, Mallory (*American Journal of Public Health*, New York,) made the observation that between the cilia lining the trachea there seemed to be innumerable minute organisms present. The organism is exceedingly minute and looks a good deal like the influenza bacillus, but it does not require hæmoglobin in order to grow. On the other hand, the only medium on which it is possible to start it multiplying is a potato-blood-agar mixture devised by Bordet. The bacillus grows very slowly at first and forms minute transparent colonies which in time enlarge and acquire a slight brownish color, but not very much. After a certain amount of artificial cultivation it can be grown to some extent on other mediums. The bacillus is Gram-negative, non-motile and varies in shape from round to oval. The bacilli seem to act mechanically only. They interfere with the action of the cilia and thus furnish a continuous irritation which excites coughing of a spasmodic type. Finally the coughing, which is not able to remove the organisms, is followed by a violent intake of air, the whoop. Examination of some lung tissue preserved from a case of whooping-cough, which came to autopsy fifteen years ago, showed masses of similar organisms in the same characteristic position between the cilia of the epithelial cells lining the bronchi. Mallory studied lung tissue from two other cases of whooping-cough, and in both of them the same lesion was found. The organisms occur only between the cilia and occasionally free in the secretion. They were never found within the air sacs. While the action of the organism is chiefly mechanical,

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it evidently secretes a certain amount of toxin. This is shown in three ways. There is a slight inflammatory reaction. Leukocytes in small numbers migrate through the wall of the trachea. The blood of whooping-cough patients always shows a certain degree of lymphocytosis. Finally the blood-serum develops an antibody which renders it possible to obtain a complement fixation test. The finding of these lesions in human beings naturally suggested experimental work on animals. Mallory first inoculated sputum obtained from acute cases of whooping-cough into the trachea of a puppy and also into that of a rabbit. In both instances he obtained a lesion corresponding in every way to that found in human beings. The easiest way to inoculate an animal with the organism was to make a suspension in bouillon and then pour it gently, a drop at a time, into the animal's nostrils. In this way it was compelled to inhale more or less of the culture. He was able in this way to duplicate in puppies and rabbits the lesions which he had found in the human cases.

—J. A. M. A.

Serodiagnosis of Pregnancy

Rosenthal, of Budapest (*Berliner klinische Wochenschrift*), has for two years past made use of the antitrypsin reaction in the diagnosis of pregnancy. When the reaction is positive this indicates simply an increased metabolism of protein matter, and since this is known to occur in gestation we have the application of a general reaction to a particular case. The test is also negative when pregnancy is absent. After narrating documentary cases the author seeks to compare the antitryptin with the Abderhalden reaction. The latter, thought at first to be specific, has later been pronounced by Abderhalden himself as having diagnostic value in numerous other affections. As we continue to compare these tests it becomes apparent that the methods are sufficiently analogous in their nature to furnish the same type of results in the healthy subject. In diseased conditions departures are shown, but in the healthy gravida the two argue closely. The antitrypsin reaction gives a positive result in 30 minutes, while both of Abderhalden's methods (optical and dialytic) require hours. In the case of conception in diseased women the two tests may be used to corroborate each other. Gottschalk, in an article on Abderhalden's dialysis method, states that he has employed the latter in 43 women, nine of whom were not pregnant. Twenty-one women were gravid in the first two months. All of these gave a positive ninhydrin reaction. So far nothing

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more could be asked of a test. But it happened also that two nongravidæ gave a positive reaction. In both of these there was a history of abortion, the uterus was enlarged, etc. The positive test in such cases was a paradox, the author can only insist there the positive test could not have been due to errors of technique. —*New York Medical Record*.

Subcutaneous Injections of Urotropine in the Treatment of Typhoid Fever

TRIBOULET and LEVY (F.). *La Presse Médicale*.

The authors in this paper point out that urotropine is a pre-eminently diffusive substance in the animal organism, being found after administration by mouth or by intravenous injection in the bile, the pancreatic secretion, the saliva, the urine, the cerebro-spinal fluid and the blood. In America the drug has been extensively used to render aseptic the bile passages before operations for gall-stones, etc.

Professor Chauffard developed this idea, extending it to cover typhoid fever. Before doing this, he investigated the effects of large doses of urotropine on the lower animals, and in particular the rabbit. He found that enormous quantities of the drug could be taken without any toxic effects; to produce death in this animal it requires 130 grains of urotropine per kilogramme of body weight. One symptom of urotropine poisoning appears to be hæmaturia, apparently of vesical origin (Crowe). The authors report three cases of enteric fever treated with urotropine with very satisfactory results. In two of these three cases the urine during treatment showed on examination the presence of pseudo-albumin; this was present in moderate amount with vesical cells and occasional red-blood corpuscles, but never any casts, white cells or renal epithelium. From this the authors conclude that urotropine, when given in sufficient amount, is capable of irritating the vesical mucosa. They describe three phases of this action of urotropine:

(1) Slight desquamation of the vesical epithelium, with the presence of pseudo-albumin in the urine.

(2) Superadded vesical congestion, with microscopic hæmaturia, and the presence of globulin in the urine as well as pseudo-albumin.

(3) Marked hæmaturia, visible to the naked eye, with signs of bladder irritation; pains over the bladder and dysuria. This stage the authors have not seen themselves.

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These urinary disorders are very temporary, and in no way hinder the progress of the patients under treatment.

The authors point out that the extreme diffusibility of urotropine renders intravenous injection impracticable; subcutaneous injection, on the other hand, is the most useful method of administration.—*The Medical Chronicle*.

A New Aspect of the Sphygmomanometer: the Importance of the Minimum Diastolic Pressure

PACHON (V.). *La Presse Médicale*.

Dr. Pachon considers that from the cardiac point of view, as well as that of the vascular system generally, a knowledge of the minimum manometric pressure is of fundamental importance in sphygmomanometry. He looks upon the value of the minimum pressure as capable of giving more information than that of the maximum. His reasons are as follows:

1. The maximum pressure represents but a momentary condition of the arterial pressure.

2. The value of the maximum pressure is very variable, even in the same individual.

3. Variations in the maximum pressure and those in the minimum have not necessarily the same significance.

4. The minimum pressure represents the strain that the arteries are constantly withstanding.

5. The minimum pressure represents the resistance that the heart has to overcome at the inception of each systole of the ventricles.

6. The minimum pressure is extraordinarily constant physiologically, not only in the same individual but also in different persons.

7. The minimum pressure is capable of serving as a sphygmomanometric constant which would make a rational standpoint in the determination of arterial hypotension and hypertension respectively.—*The Medical Chronicle*.

The Canadian Practitioner and Review

Vol. XXXVIII. TORONTO, OCTOBER, 1913. No. 10

Original Communications

THE SCOPE OF SANITARY WORK IN THE HOME

By CHAS. A. HODGETTS, M.D., D.P.H., L.R.C.P. (LOND.),
F.R.SAN.I.

Medical Adviser, Commission of Conservation.

The sanitarian is struck with the great activity of social workers in all that relates to the home and its inmates; the work is mainly voluntary, and its importance is urged largely upon moral and social grounds. From the fact of such universal activity in this field by sociologists, I have been led to enquire how much of this is due to failure on the part of sanitarians to carry on preventive work in the home. It is quite true that in the case of diseases which are communicable we have done much, and the efforts put forth against the spread of tuberculosis have evidenced the fact that for a long period of time the home itself was almost entirely neglected, and that greater progress has been made in the matter of sanitation of the barn and live stock than of the home and its inmates. Of course, it will be argued, the one is a financial proposition involving dollars and cents to the farmer; the other is simply a social question and not at all to be considered by the state. The politician recognizes the value of cattle, and is willing to protect them, even by strict legislative enactment; but man—not to mention women and children—is only of interest from the standpoint of his being a political shuttlecock, and his rights must not be interfered with.

It is perhaps a fault of sanitarians that they have not been aggressive enough. I believe we have not gone down to the people and striven by every means in our power to raise them

by educational methods to the higher health standard which we conceive to be essential for our physical welfare.

If the Sanitarian wishes to succeed he must also be a utilitarian, and must convince the people that to be truly happy they must be healthy—and, if not healthy, they cannot possibly expect to be happy.

As health officers, we have been, and still are, wrestling with what may be looked upon as the grosser elements that go to make up the science of preventive medicine. The average citizen of Canada to-day associates our official duties with the care of smallpox, the placarding of a house for scarlet fever, or the abatement of a nuisance in his neighbor's back yard. As a ratepayer he believes this is what he is paying for. I have frequently known it to be the magnificent "salary" (?) of "twenty-five dollars a year"—with the majority of ratepayers it is a business proposition—he considers the M.O.H. of less importance than the village constable, and therefore the professional services are gauged by the lesser standard.

Just drop into the office of a whole-time M.O.H.—listen to the "phone calls," or rather his replies thereto—and you will soon be convinced that much of even this official's time is taken up with just such matters, notwithstanding the fact that he has a competent officer at the head of both of these branches of his department.

Turning to the public press, we find indications, even there, that the higher branches of public health work in this province should be taken out of the hands of sanitarians who have a medical training and handed over to sanitary engineers. This is a grievous error, which can only be accounted for by reason of the limited knowledge of these editors of what are the fundamental principles of hygiene and what are the duties of a sanitarian, and how best the office of M.O.H. can be filled. There is a limitation to be placed upon the efficiency of a sanitary engineer, but the field of the trained hygienist is illimitable when we view the whole range of the science. Do not mistake me; I place a high value upon the work that can be accomplished for the health of our people by the sanitary engineer, but he must co-ordinate his work and co-operate with—be directed by, if you want the best results—the trained sanitarian.

In short, sanitary engineering is but a part, and a small part, of the science in which we are engaged. It would be more sane for these papers to agitate that the skilled town planner and housing expert should have charge of the work as to make

the suggestion just referred to—for in these branches we find problems more difficult, because more intricate and varied, all having an important bearing on health, the health of the child, the mother and the father.

It is to the lasting credit of the Rt. Hon. John Burns, President of the Local Government Board of Great Britain, that, in dealing with the housing question in 1909, he made the M.O.H. the one municipal officer upon whom the work pivoted in that country. Why did he do so? Because he realized that the health of a nation was involved in the question, and greater and better achievements were possible under a qualified health officer than in any other way.

Coming home to our own fair province, let us note for a moment the activities at work, all having for their common object the betterment of the environments of our population, both rural and urban.

These may be classified as: (a) voluntary, and (b) municipal. The former are being carried on with more or less activity by a small army of voluntary social workers. In some instances they are in part supported by municipal aid, which is stimulated often by a provincial grant. Thus far the necessity for the work, and the good accomplished, is recognized by the bodies corporate. In considering the aid given, it will be found that progress has been made by these bodies paying for a whole-time officer, who directs, and in a manner controls, the activities of the associations of social workers. The character of most of this work falls directly under the purview of what is known as sanitary science or hygiene; but up to the present this fact has not been fully realized, or, if it has, it has been lost sight of because of its being hailed as work for the improvement of the morals of the people. Advance the same or better measures on the ground that the disease will be prevented, that a higher standard of health and longer life will be assured, that physical young Canada will be benefited, and then your difficulties as health workers begin. The problems are bereft of their sentimental colorings, and no matter if the public in the aggregate pay more and achieve less, the work will proceed on the present basis.

In regard to the second class, the municipal, it is little to be wondered that slow progress has been made, for, as a rule, the average municipal councillor is quite willing to vote a small sum to assist the social workers in carrying on work which, in the fondness of their heart, they know will benefit and uplift a particular class of the community in whom they are interested.

But ask those same councillors to take over the work and do it upon up-to-date lines and at the public charge, then it is a different question altogether.

Take just one concrete example which relates to health work which in the highest sense is preventive, viz., that relating to child hygiene. In Canadian cities health authorities are too often satisfied with a partnership as between the municipality and the social workers. But what is the method adopted in New York City? In August of 1908, the Department of Health organized the Division of Child Hygiene. Its force at the present time numbers 145 physicians, 265 trained nurses, 55 nurses' assistants, 30 clerks and typists, and 23 helpers, all employed throughout the year, while this staff is augmented during the months from May 1st to October 31 by 56 trained nurses and 55 nurses' assistants.

The object of this Division is to supervise and control the health of children. Its functions include:

- (1) The supervision and control of medicines.
- (2) The instruction of mothers in the care of babies by
 - (a) District visiting,
 - (b) Infants' milk stations,
 - (c) Mothers' conferences,
 - (d) Little mothers' leagues.
- (3) The supervision of foundling babies boarded in private homes.
- (4) The sanitary supervision and control of day nurseries and institutions for dependent children.
- (5) The medical inspection and examination of school children.
- (6) Vaccination of school children.
- (7) The issuing of employment certificates to children of legal age.

Here we have outlined a comprehensive scheme of one division of a city health department—here, the control, direction and elaboration of much that appertains to the child itself is in the hands of the medical officer of health. It does not altogether eliminate the social worker, but who will say that the scheme is not much better than in the case where charitable organizations are alone engaged? Under such a scheme as outlined there can be no duplication, and efficiency is written in bold characters all over it—efficiency which spells the best results at the minimum cost.

Let us turn now to the province in which our work is carried on. It is now possible, under the provisions of the Public Health Act, 1912, for health authorities to extend their work into the cubical contents of any building, be it a shack or a palatial tenement. Indeed, we may go further and say that it is part of our duty as health officers to do so. The Provincial Board of Health and the Government of Ontario are to be congratulated upon this great forward movement, which must prove, in the near future, if "activity" is the slogan of every local board of health in the province, of such untold benefit that we will all be surprised at the uplift which will take place in health, happiness, morals and physical improvement of the people.

It is quite true that there is no Act in force specifically dealing with the housing question, but sufficient will be found in the Public Health Act to bring about results in improved home sanitation if the powers therein contained are but further elaborated by the Provincial Board in the way of general regulations which will accomplish more than an imperfect Housing Act.

For instance, the Provincial Board of Health has the power to make regulations for:

- (Sec. 8.)—(a) The prevention or mitigation of disease;
- (c) The removal of nuisances and unsanitary conditions;
- (h) The inspection of premises and the directing of the cleansing, etc., of the same;
- (i) The entering and inspection of any premises used for human habitation, where conditions exist which render the inhabitants liable to disease, and further, "for the directing the alteration or destruction of any such buildings" if unfit for habitation;
- (j) For preventing overcrowding;
- (p) A general power whereby regulations may be made on "any other matter, which, in the opinion of the Board, the general health of the inhabitants of the Province or of any locality may require."

These powers are all the stronger in view of the fact that the definition of a nuisance is stated definitely in the Act in Sec. 73 and 74, to mean:

"Any condition existing in any locality which is or may become injurious or dangerous to health or prevent or hinder in any manner the suppression of disease, shall be deemed a nuisance within the meaning of this Act. (New.)"

or

“(a) Any premises or part thereof so constructed or in such a state as to be injurious or dangerous to health.”

It must also be noted that it is the duty of the Provincial Board, under Sec. 6 and 8, to:

“(a) Make investigations and enquiries respecting the causes of disease and mortality in Ontario or in any part thereof;

“(d) Determine whether the existing condition of any premises or of any street, or public place, or the method of manufacture or business process, or the disposal of sewage, trade or other waste, garbage or excrementitious matter is a nuisance or injurious to health;

“(g) Enter into and go upon any premises in the exercise of any power or the performance of any duty under this Act, and make such orders and give such directions with regard to the structural alteration of the premises or with respect to any other matter, as the Board may deem advisable in the interests of the public health. R.S.O., 1897, c. 248, ss. 9, part 10. Amended.”

And further, the same Board has the power (under Sec. 7) to investigate under oath as to unsanitary conditions and nuisances, and order their removal or abatement.

Surely with these powers, together with the statutory definition of a nuisance, there is before the health authorities of this Province a grand opportunity to make tremendous strides in the realm of hygiene of the home, which, if properly developed and worked out, must result in municipal authorities doing in a systematic manner and with trained officers, work which, up to the present, has been carried on here and there by philanthropists and social workers and others.

As most of the detail work in home sanitation must necessarily fall upon the staff of the M.O.H., it may be pointed out, very briefly, that the Act clearly lays it down (Sec. 7) as part of that officer's duties that he shall have a regular inspection to prevent nuisances or abate any existing nuisance. Having in view that one definition of a nuisance is “any premises or part thereof so constructed or in such a state as to be injurious or dangerous to health,” what opportunities has not the M.O.H. as a result of the statutory powers for the examination of premises under sections 76 to 80, inclusive, and sections 86 and 87, which relate particularly to lodging-houses, tenements and laundries?

The latter sections make it possible for the health officer to publicly condemn in a most forcible manner, by placard, any

habitation either unfit for human beings or dangerous to health. This is a veto power over usury and greed which should be used after careful, and, if necessary, personal inspection by the M.O.H. himself.

In special cases where considerations of difficulty are involved the M.O.H. has recourse to the strong arm of the Provincial Board—sec. 81—and in cases where the M. O. H. is not backed up by the local Board, he is assured by sec. 34 that, if the case is a good one, the Provincial Board may support him, and so carry out the good work he requires.

It must be noted that much elasticity exists in respect to the details of sanitary inspection under the Act and the regulations as contained in Schedule B, by reason of sec. 114, ss. 2. Special circumstances can be dealt with by municipal by-laws, which, however, must be approved of by the Provincial Board; and so difficulties existing in our large centres, and perhaps not to be found in towns or villages, can be met, and dealt with, by the local health authorities without being dependent, as we have been in the past, upon local organizations to undo what the body corporate should have prevented. Many of the evils which arise from insanitary home conditions, many of the diseases incident to child life due to unhealthy environment and improper feeding can and should be dealt with along preventive lines, and the work should be directed and controlled by the Health authorities, whether they be municipal, provincial or federal.

VENEREAL DISEASE AS A PUBLIC HEALTH PROBLEM*

BY F. ARNOLD CLARKSON, M.B.

Junior Assistant Physician, Toronto General Hospital.

The problem of venereal disease has been before the medical profession almost from the dawn of civilization, but the results of our efforts to even lessen its prevalence are nothing of which we may be particularly proud. Every year it costs this country millions of dollars; it fills many homes with preventable misery, and it overcrowds our hospitals, prisons and asylums with those who are physically, morally and mentally unfit. It is sapping the vigor of the nation, and, if uncontrolled, it may eventually endanger its existence. When we consider the thousands of potential lives destroyed by gonorrhœa, the 20 per cent. of the blind in our asylums, the abortions from syphilis, the gynæcological operations and the suffering they entail, and the deaths each year from aneurisms, tabes and general paralysis, it is certainly high time that Public Health Associations came before the Legislature with concrete proposals to stamp out these overwhelming maladies. There is no branch of the practice of medicine—surgical, gynæcological, medical—in which syphilis does not occupy the premier position as a causative agent. Out of 300,000 skin cases in New York collected by Bulkley, 11.5 per cent. were syphilitic. In Paris it is estimated that 15.17 per cent. of adult men have been infected with the spirochæta, so that we are face to face with the most important social and public health problem of the day.

And yet "whilst Nature breeds perverse all monstrous, all prodigious things," we in Canada have taken no legislative cognizance of the great black plague that hurries so many of our citizens to untimely graves, and leaves behind hundreds of syphilitic warps to be kept at the state's charge. As Lecky says (*History of European Morals*), it is remarkable that "an epidemic which is one of the most dreadful now existing among mankind, which communicates itself from the guilty husband to the innocent wife, and even transmits its taint to her offspring, should be suffered to rage unchecked because the Legislature

* Read before the Public Health Section of the Canadian Medical Association, London, June, 1913.

refuses to take official cognizance of its existence or proper sanitary measures for its repression."

But legislation moves in response to public opinion. Men will deliver themselves from any tyranny when once they have learned to hate it sufficiently. It is clearly our duty to shape public opinion so that we may free ourselves from this despotism of syphilis. Our forbears in the middle ages stamped out leprosy, and wise legislation in Great Britain has eradicated hydrophobia. I have confidence enough in the Anglo-Saxon to believe that, if we can show him the great importance of the problem, both to the individual and to the nation, he will accomplish a successful solution. But at the present time we declare spitting in public places to be unlawful, and yet allow syphilitics to disseminate their infection without the slightest check.

Whether or not syphilis was introduced into Europe by the sailors who accompanied Columbus, one can hardly read the Mosaic Law, especially Leviticus from the 13th to the 15th chapters, without being impressed with the fact that the great Hebrew law-giver had to deal with this malady. His methods of diagnosis may have been a little faulty, but his manner of solving the question has many suggestions for us to-day. He prevented infection as far as possible by forbidding marriage with neighboring tribes, whose ideas of hygiene were far behind those of the Jews, and, secondly, when the patient had become infected, he was isolated to some extent, and thus the danger to others was much lessened.

No discussion of venereal disease can take place without considering the prostitute, who "remains, while creeds and civilizations rise and fall, the eternal priestess of humanity, blasted for the sins of the people." At various times we have tried relementation, with medical supervision, but the Puritanical party of English-speaking races always considers this a "state regulation of vice." They deem venereal disease the proper punishment for sexual sin, forgetting that an enormous amount of suffering falls upon innocent humanity. At the present time we take no legal cognizance of these women, who thus become centres of infection. So it happens that, in Hamburg, for instance, 90 per cent. of the prostitutes examined gave a positive Wassermann reaction. Now a prostitute does not like syphilis any more than a sailor likes shipwreck; both are risks incidental to their respective callings. But there can be no doubt that medical inspection, unpalatable as it is to Anglo-Saxons, was better than the *laissez faire* policy we have at present.

Some at least of the infected women were removed to lock hospitals. The trouble was that the public expected this system to wipe out venereal disease. This it can never do.

In Germany persons may not marry within ten years after contracting syphilis; and recently a law has come into force making it a criminal offence, under heavy penalties, for a syphilitic man or woman to knowingly infect a healthy person. It is time for us to approach our lawmakers and ask for a similar enactment.

In the American navy and in both the German army and navy, complete and ample instruction as to the prevention of venereal disease is systematically given, and, if we can judge by statistics, with most beneficial results. Shall we ask for the same thing for our militia, and are we warranted in telling those of our patients who constantly court infection that there are prophylactic measures which lessen the dangers? These are two questions which might appropriately be discussed this morning.

Besides treating the patients who come to us, it is our duty to so shape public opinion that, in the near future, the state will take action to stamp out syphilis, and relegate it to the limbo already occupied by malaria and typhus fever. The means at our disposal of educating the public are comparatively limited, but I would offer the following suggestions:

In the first place, lectures on these subjects delivered by medical men to groups of young men and women are of the greatest benefit. For some years it has been the custom in all great universities of the world to address the freshmen early in the term on the dangers of venereal disease. These students afterwards spread the information they have received at first-hand, and undoubtedly this will be a great factor in bringing about much-needed legislation. If each member of the Canadian Medical Association would undertake to give one such address each year, we should have syphilis under control within the next decade.

Newspapers, even the very best in our country, are so tinged with commercialism that we can hope little from them till they are compelled to take notice of a disease which touches the lives of more persons than cancer and tuberculosis put together. The dailies, the magazines, and even the religious journals, carry advertisements of nostrums for the supposed cure of syphilis. If they would close their columns to those unworthy members of our profession who prey upon the credulity of the unfortunate, in six months we would be free of that vilest of quacks, the

“specialist” in private diseases. At the same time the press is a great power for good, and must be a large factor in any educational campaign we may initiate.

We need in every hospital a number of beds set aside specially for these maladies, where the medical students can be properly trained in the various manifestations of these infections, and where the afflicted patient, instead of occupying a place of dishonor, as at present, will be given the most modern and scientific treatment possible.

Beginning with the discovery of the spirochaeta, the treatment of syphilis may be said to have passed from the empirical stage to the scientific. The advent of Ehrlich's specific demands a radical reconstruction of our whole hospital outlook on this disease. If we could get hold of all cases of primary and secondary syphilis, the infection, at least as a contagious disease, could be eliminated. Under the benign influence of this new drug, the chancre heals quickly, the secondaries disappear in a short time, and perhaps it is not too much to hope that, ten years from now, the parasyphilitic manifestations will be very rare. But to use salvarsan rationally, it is absolutely necessary to control the treatment with the Wassermann reaction. To do this properly requires a great deal of time and care, which makes it expensive, and for this reason, in private practice at any rate, it is not done often enough. The serum test should be undertaken by our provincial laboratories, and put on the same footing as the Widal reaction and diphtheria swabs. In order to bring this matter before this section of Public Health, I shall move the following resolution:

Whereas, syphilis is becoming so prevalent in our cities and towns as to constitute a national menace, touching more families than tuberculosis; and

Whereas, the Wassermann reaction is absolutely essential to the proper treatment of this disease, the Section of Public Health of the Canadian Medical Association hereby

Resolves, that the various Provincial Boards of Health through the Dominion be requested to do the Wassermann reaction gratis for the medical profession; and that a copy of this resolution be sent to the Provincial Secretary of each of the provinces.

421 Bloor St. West, Toronto.

A METHOD OF TONSILLECTOMY

PERCY B. MACFARLANE, B.A., M.B., HAMILTON.

The operation of tonsillectomy or the removal of the tonsil in its capsule has been written on very extensively, but the writer wishes to describe a method which he has found most efficient and which he has used in a series of 250 cases of removal of tonsils under general anaesthesia.

The anaesthetic used is ether. The patient is put to sleep in the ordinary way either by the gas and ether sequence or by ether by the open method. The anaesthetic is then carried on by the administration of warm ether vapor passed into the mouth through a tube which is attached to the mouth gag. In this way the operation is performed without the interruptions caused by the administration of ether on the mask, and the throat is easily kept clear of blood, so that the "blood covered field of operation in throat work," described by some writers, is entirely eliminated and every step of the operation can be performed in plain view, not being obscured by blood.

This method of ether administration is also recommended because of its increased safety. The Committee on Anaesthesia appointed by the American Medical Association report that one great danger in anaesthesia is involved in allowing the intensity of the anaesthesia to vary during an operation. An anaesthetic is good in proportion as it is uniform. This committee states that offences against this principle occur most frequently in throat operations. By administering warm ether vapor in the manner mentioned the uniformity of the anaesthetic is maintained and accidents are not so likely to happen as in the ordinary method in which the patient at times comes nearly out of anaesthesia and again is plunged into a profound narcosis.

In commencing the operation itself the tonsil is seized with an ordinary tonsil seizing forceps and is drawn forwards. An incision is made through the mucous membrane of the anterior pillar at its margin so as to expose the capsule of the tonsil. A separation is then made between the anterior pillar and the capsule. This separation is carried upwards over the upper pole of the tonsil and then downwards between the posterior pillar and the tonsil. By the use of a blunt dissector the tonsil is entirely freed from the pillars and remains attached only by its

base. A snare is then slipped over it and, following the line of least resistance, it cuts through the connective tissue, uniting the capsule to the surrounding tissue.

When the tonsil has been removed a gauze sponge is placed in the fossa and pressure may be placed upon it while the other tonsil is being removed in a similar manner. Usually this pressure is sufficient to control the hæmorrhage. If it is not controlled in this way the bleeding point is picked up with a pair of hæmostatic forceps and crushed or a ligature may be passed around it if necessary. Care is taken that all bleeding has ceased and that the fossæ are quite dry when the patient leaves the table.

This method seems to be the best because the operation is easily and quickly performed, the field of operation need never be obscured by blood, there is no danger of damaging the pillars, the amount of bleeding at the time of operation is less than in any other method, and the possibility of post operative hæmorrhage is reduced to a minimum. In the 250 cases of this series there has been no case which presented the slightest indication of post operative hæmorrhage.

152 James St. South, Hamilton.

A CASE OF MALARIA TREATED WITH NEC-SALVARSAN

BY CHARLES SHEARD, JR., M.R.C.P., LONDON.

Malaria is a disease not commonly met with in Canada, and, if the practitioner thinks of it at all, it is generally with the conviction that the administration of quinine, and the result of this therapeutic test offers an infallible check on his diagnosis. Possibly on account of these two reasons, and particularly because malaria is not generally met with in Canada, the diagnosis from the examination of the blood does not receive as much attention here as elsewhere.

Malaria is a world-wide disease, and, if the whole surface of the globe were included, is certainly one of the commonest, ranking near the top of the list, along with tuberculosis and typhoid. It is prevalent in many parts of the United States, chiefly in the New England and Southern States, and cases are of common occurrence in and about New York City. In some parts of the world, as on the Gold Coast and in British South America, its prevalence assumes economic importance. In Trinidad, where the water retained on the leaves of the trees affords breeding grounds for the mosquitoes, tertian and astivo-autumnal malaria have become one of the problems of the island to such an extent that the head of the Royal Commission sent to investigate malaria in Trinidad made the remark, "Man must exterminate the mosquito or the mosquito will exterminate man."

The disease in these proportions is unknown in this country, but with the increased facilities of modern travel and the increase in immigration, cases of malaria are constantly occurring, and a knowledge of its diagnosis becomes of interest.

The administration of quinine as an aid to the diagnosis of malaria is at best unsatisfactory, and, in view of the thorough knowledge that we have of the pathology of the disease, the therapeutic test is a crude way of approaching the diagnosis. Quite apart from its specific action, large doses of quinine act markedly as an antipyretic, and a fall in the temperature following the administration of quinine may lead to the incorrect diagnosis of malaria being made. A case that I had the opportunity of observing in New York illustrates this. The patient, a

young Italian, was running an irregular fever; the spleen was palpable, but beyond this and an indefinite murmur at the apex of the heart, nothing could be made out upon physical examination. Repeated examinations of the blood, as well as splenic puncture, were negative. Quinine was then given, and the temperature fell and continued about 98° for a few days. However, to the satisfaction of those who had reported on the blood examination, it rose again on the fourth day and continued up much as before. Later, a gonococcus was recovered on culture from the blood, a heart murmur developed under observation, and the case assumed the character of an infective endocarditis.

It is clearly in the interests of the patient that a correct diagnosis should be made, and this can best be done by an examination of the blood. This is a more simple matter than most text-books would lead one to believe. For purposes of diagnosis stained smears are best; any of the ordinary eosin-methylene blue stains can be used; Jenner's is possibly not so good as the others, but uniformly good results can be obtained by the use of Wright's. The more elaborate staining methods are quite unnecessary. The smears should be as thin as possible, as it is the red cells that are to be studied, and then stained, following the ordinary technique of Wright's stain. Stain for one minute with the undiluted stain, and then for three minutes with distilled water added until a scum appears over the surface of the smear. It is well to wash in a beaker filled with distilled water until the preparation assumes a distinctly pinkish hue, for over-staining adds to the difficulties. The plasmodia are readily seen inside the red cells—the large presegmentation, mature forms are more obvious than the smaller signet ring hyaline forms, and for this reason it is best to get the blood before or during the chill, to assure that the organisms are well grown. With a twelfth-power objective, the larger forms, staining deeply blue, with coarse black granules scattered throughout their protoplasm, can be readily seen distending the red cells, even if the smear is hurriedly moved about and the focus not always sharp.

That tertian malaria can present some difficulties in diagnosis, and to emphasize the importance of the examination of the blood in suspected cases, a patient admitted to Dr. Anderson's service at St. Michael's Hospital, Toronto, showed. A brief history of this case, and the findings after physical examination, were as follows:

The patient, John McC., a native of the North of Ireland, had been in Canada about six months. Shortly before he was ad-

mitted to hospital he had been on a visit to one of the New England States. He complained of weakness, and was taken into hospital on July 6th. He was found to be running an irregular temperature, as indicated on the chart, and was noticeably anæmic. A marked feature of the case was the slowness of the pulse, which never rose above 50 to the minute. Careful physical examination revealed slight enlargement of the spleen, which was barely palpable at the costal margin. Shortly after his admission he developed an urticaria on his arms and legs, which, however, rapidly faded and was not thought of much moment. There was almost entire absence of chills, only two slight chills being observed, and these occurring during the last few days. On account of the irregular nature of the temperature, which was even more pronounced when the q.4 h. temperature was considered, than the chart indicates, the absence of chills, and partly also because of the rarity of the disease here, malaria was not at once thought of. The Widal taken was found to be negative. Infective endocarditis was suggested, but the slowness of the pulse and absence of heart murmurs seemed to oppose this. As the patient remained in hospital the temperature began to assume a more definite intermittent character and examination of the blood revealed the presence of the plasmodium.

In the treatment of malaria quinine has ever taken the first place. That it exerts a specific effect upon the organism of malaria is undoubted, but that the plasmodium has some degree of resistance to quinine also seems likely. In many cases of aestivo-autumnal malaria, quinine appears to have little or no effect, and in tertian malaria, treated by quinine, used over a period of a few weeks, relapses are common, some cases thus treated having regular attacks every spring, resulting eventually in the formation of a considerable splenic tumor. Quinine is generally able to prevent the next chill if taken shortly before the chill is due, and it is likely that its action is largely on the young hyaline forms and that the mature plasmodium is not so much affected by it.

The relationship between the plasmodium of malaria and the spirochæta pallida of syphilis has long been known, as they both belong to the protozoa. It has been suggested by some that, like the plasmodium, the spirochæta pallida may also assume other forms besides the common corkscrew shape, and this may explain the scarcity of spirochætes found in tertiary lesions, such as gummata. Certainly the arseno-benzol preparations possess marked germicidal properties towards the organism of malaria as

towards that of syphilis. In this case 0.9 grms. of Neosalvarsan were given some six hours before the next elevation of temperature was due, with a view to preventing, if possible, the paroxysm. Although there was some slight elevation of temperature, 101° , immediately following the injection, this occurred some hours before the chill was due, and may be fairly attributed to the ordinary reaction that often occurs following intra-venous injections. No further rise of temperature occurred, malarial parasites disappeared from the blood, and the patient, up to the time of his discharge from the hospital, appeared perfectly well.

It seems likely that Neosalvarsan exerts a stronger effect on the plasmodium than quinine. Whether one injection furnishes an absolute cure for malaria can hardly be stated until cases so treated have been under longer observation.

45 Bloor St. East, Toronto.

Selected Articles

THE INTERNATIONAL MEDICAL CONGRESS*

INTERNAL SECRETION.

During the last few years it has been realized that some of the common disorders of general health, particularly those of middle life, depend on a disturbance of certain small glands, the functions of which are not properly understood. There are some half dozen little organs in the body, none of them very big, which appear to have the property of forming substances which play a vital part in keeping up the harmonious interaction of the various systems of the body. The peculiar characteristic of these is that they form no obvious secretion, but it is supposed that they manufacture important chemical substances, which are directly taken up into the blood stream, and the term of "internal secretion" is therefore applied to them.

STATUS LYMPHATICUS.

There are certain individuals who, although apparently strong, are liable to faint at the slightest shock; plunging into cold water, for example, may be attended with fatal consequences. Likewise they are unable to take chloroform and similar drugs without danger. It is agreed that many of the unforeseen accidents that have occurred in comparatively healthy people during operations have been due to this peculiarity of constitution. The chief physical characteristic which has been discovered in this connection is that of an overgrowth of certain tissues of the body, known as the lymphatic tissues, the result of which appears to be impaired vitality, so that the term "Status Lymphaticus" has been well applied to it.

MEDIAEVAL MYTHS.

WAS CAESAR AN EPILEPTIC?

Dr. Norman Moore delivered his presidential address to the section dealing with the "History of Medicine," and took as his subject the history of medicine in England.

The first important treatise on the history of medicine, he said, was written in the Tower of London by Dr. John Friend,

*Abstracted from London journalistic reports.

when he was imprisoned there in 1722. He wrote with a warder sitting in his room, and completed his work after his release.

Continuing, Dr. Moore referred to the historical idea that Julius Cæsar was an epileptic. This idea was based on a passage in Plutarch and one in Suetonius, but more probably what took place was that Cæsar fainted from exhaustion, due to great mental strain. Who had ever seen an epileptic with a head like Cæsar's or known one of such transcendent mental ability? And, applying the same observations, was not the belief in the epilepsy of Cæsar the sole origin of the idea of epilepsy in Napoleon?

The first books treating in any way of medicine which was mentioned in England was the poem of Lucretius. The true birth of medicine here was the foundation of the College of Physicians by Thomas Linaere, in 1518. From the study of the observations of nature in Hippocrates and Galen, the college was directed to experimental research, of which the first great result was Gilbert's discovery of the magnetism of the earth, and the next Harvey's discovery of the circulation of the blood.

AN ANCIENT HOSPITAL.

Miss Stawell read a paper on "St. Luke and Virgil," in which she argued that St. Luke was an amateur physician, who was influenced by credulity and practised without fee. The speaker also dealt with the influence of Virgil on the writings of St. Luke, and expressed doubts as to whether the apostle was a Greek, pointing out the possibility of his being a member of an ancient Roman family.

Professor Sudhoff, in a paper on the origin of syphilis, declared that the idea that this disease was introduced into Europe by the followers of Christopher Columbus, followed by an outbreak at Naples in 1493, was quite erroneous and a myth. Syphilis was almost as old as civilization itself, and investigation showed that it was more probably introduced by the Crusaders on their return from the Crusades.

Professor Richard Caton read an interesting paper, illustrated with photographs, on the temples, hospital, and medical school of Cos, the scene of the labors of Hippocrates. It was dedicated to Asklepios, whose worship was the most enduring form of paganism, and gave much trouble to the ancient Christian missionaries. Hippocrates devoted his life to the sick and the maimed, and, probably, while he revered the supreme gods, he believed more in rest, pure air, exercise, diet, the use of remedies,

and in the curative powers of Nature than in the direct interposition of Asklepios and the sacred serpents.

On this island of Cos it would seem that medicine, perhaps for the first time, arose as a great and beneficial agency, based on a practical and scientific foundation, for the relief of the sufferings of mankind. How great was the debt we owe to those Greek priest-physicians, and especially to Hippocrates, the father of medicine!

In the course of an address on "Some historical questions in the light of our modern medical knowledge," Dr. Walsh referred to the many deaths that were supposed to have been caused by poison in the Middle Ages. As a matter of fact, there was reason to suppose that the cause of death was really appendicitis, ulcers of the stomach, or other abdominal troubles, and the deaths, which would very often take place after a meal, would be put down to poison by people who were ignorant of these diseases.

People in modern times were prone to think that the physicians of mediæval times knew nothing about medicine. As a matter of fact, they knew a good deal, and the surgery of the fourteenth century was almost as good as ours. They had also a knowledge of anesthetics and antiseptics. Their knowledge of poisons, for instance, was very extensive, and we were largely dependent on their knowledge of the subject at the present time.

TALES ABOUT POISONS.

There was a period of decadency in medicine at the end of the eighteenth century, when our hospitals were the worst in the world, and we were accustomed to congratulate ourselves on the advance we had made since that time, forgetting what had happened in the centuries before.

The Borgia was supposed to have been a terrible creature, and yet Richard Garnett in his book had pointed out that only one death which she was supposed to have caused could be at all attributed to poison, and that was doubtful. These tales about poisons were traditions. In those days people used to pretend to have all sorts of poisons to sell to people who wanted to get rid of somebody. They were like our patent medicine advertisements, which pretended to cure every ailment there was. But what would the world two centuries hence think when they read those advertisements, and yet we called the Middle Ages superstitious? The people of those days were not the ignorant, superstitious, malicious people they were so often supposed to have been.

Referring to the influence of disease on national life, Dr. Walsh pointed out how malaria came to Athens, and was followed

by the decadence of Greece. Recently the hook-worm (or lazy disease) had been discovered. Was it not possible that the "ups and downs" of ancient Egypt might be attributed to that malady?

Dr. Lebard, in the course of a paper dealing with the color illustrations of medical works to the end of the seventeenth century, remarked that the earliest examples of color printing were to be found in medical books. The three-color process was not a modern invention, as was usually supposed, but dated back to 1710, the inventor being James Christopher Le Blanc.

TROPICAL DISEASES.

PLAGUE AND ITS SPREAD.

Surgeon-General Sir David Bruce presided over the Tropical Diseases Section, which gave its main attention to plague and its spread by rat-fleas.

In his opening address the President referred to the fact that at the last international congress in London, in 1881, there was no special section set apart for tropical medicine. In truth, there was little material to form such a section at that time. Since then, however, the subject had grown rapidly, and its literature was now enormous. Citing the topic of yellow fever, the President referred to the different views then entertained in regard to it as compared with those that prevailed now, but he remarked that admiration was due from them to the acumen of some of the old investigators who came so wonderfully near the truth.

Professor S. Kitasato (Japan), who read a paper on "The value of the search for rat-fleas in the detection of plague," stated that the pulmonary and the bubonic plague had quite a different mode of infection, although they were both caused by the same kind of germ, i.e., the pulmonary was exclusively conveyed from man to man, while the bubonic was spread by the rat. Therefore a different method of search for the germ should be applied in each case. The pulmonary cases could be best checked by the early discovery of the patients and the segregation of the persons who were suspected of having come into contact with them.

DENTAL DETECTIVES.

In the Stomatology section Mr. W. H. Dolamore gave an interesting address, demonstrating how the dentist may become a detective and use his scientific knowledge in the elucidation of criminal problems.

He was asked to give his opinion on the age of a skull. A child aged about 5 years and 9 months had disappeared, and subsequently in a well near his home a body was discovered. A local doctor gave his opinion that the body was of a child aged about 12 years, but evidence was brought forward to show that this was the body of the missing child. The evidence of the local doctor was discounted at the police court proceedings, and the speaker was called in to see whether he could say by an examination of the skull what the age of the child was. There was no fact in the anatomy of the skeleton by which one could determine whether the child was 6 or 12.

Mr. Dolamore, with the aid of lantern slides, showed how he was able to deduce, by a detailed examination of the skull, that the body was that of a child "round about" 6 years of age.

PROF. H. CUSHING'S ADDRESS.

VALUE OF EXPERIMENTS.

Professor Cushing, who wore his academic robe, recalled that a few years before the last congress in London, thirty-two years ago, the profession of medicine, and particularly those concerned with its basic science, physiology, had been called upon in this city to defend itself against the public charge of cruelty in its pursuit of knowledge. There had been no striking practical demonstration of the value to the common weal of animal experimentation, such as an enlightened public demanded, and, indeed, such as an enlightened profession expected.

The defence was based chiefly on the need, even at the cost of animal life, of increased knowledge concerning the functions of the human body, but despite the warnings and protests of Huxley and a few others restrictive legislation was passed. Since then, in the British Isles, and consequently in other British-speaking countries, medicine had been placed in the absurd position of defending the character of the labors necessary for its advancement.

Was it not due solely to legislative restraint upon the freedom of investigation that in these thirty years this country, which had continued to produce the greatest of names in experimental science free from statutory restrictions, had given us few instead of many notable successors of Cheselden, Cooper, Pott, Brodie, Bell and Lister? It would seem, indeed, that the restrictions placed upon animal experimentation had debarred the physician and the surgeon from productive laboratory investigations far more than the physiologist, whose inclinations towards research

the statutes of 1876 were expressly designed to hold in check. The spirit of investigation, all too rare, ought generously to subsidize rather than tax, to encourage rather than hamper.

The output of the experiments of one participant in the congress of 1881 was said to have saved enough for France to enable her to pay the heavy indemnity which a war had imposed upon her. Nature was loath to give up the secrets she was known to possess; discoveries did not come by chance; they only came to those who industriously sought them; and the inquisitorial methods of those who sought the light through experimentation, misjudged as cruel, were necessarily stern and persistent, whether the investigator dealt with inanimate objects or with animate beings.

The congress now met again in London under circumstances strangely similar to those of a generation ago. Again, a legislative inquiry had just been forced upon British medicine by those who would abolish experimentation upon animals. But how different was the testimony now. It bared to the public gaze the science of medicine, which in thirty years had become transformed throughout the world as the result of the very activities the commissioners were called upon to investigate.

Medicine no longer was looked upon as uncommunicative, consulted in a back room, as though it had something to conceal from the patient and the family. The patient and the family were invited to join in the struggle against disease. Great funds were devoted to the purpose, great corporations were held responsible for the health of their people; what were formerly uninhabitable zones of the globe were being rid of their plagues; governments, civic, State, and national, not only employed the weapons of attack and defence forged in the laboratories whose methods were in question a generation ago, but expected their medical officers to make progressive contribution to further research. In this great movement, of which Huxley and Virchow and Pasteur had some foresight, was the expression of the new alignments taking place, which affected the surgeon no less than the physician.

It had been a seeming paradox that the medical profession had been so consistently endeavoring to make all the world a place where there was constantly lessening need for the doctor. He was, indeed, greatly feeling the effects of these efforts, and as he became more and more the servant of the public health and less the prescriber for individual ills, he philosophically accepted, and humanely welcomed, this outcome of medical discoveries which

the experimental method had already given, and would increasingly continue to give.

Diseases which gave bread and butter to his predecessors were disappearing. One injection robbed diphtheria of its terrors. Typhoid was becoming a disgrace. Tuberculosis was everywhere coming under State care, and the widespread campaign against the disease in which those outside the profession were taking no insignificant part, was gradually losing its revulsion. The health of children at public schools was supervised by appointed officers. Dr. Pound, of Cure-lane, was being supplanted by Dr. Ounce, of Prevention Street.

To what was due the expectancy of recovery in consumption? Unquestionably, during experimentation on animals, a most important step forward was taken, although the chief credit would be with the earlier men. There had been nothing hitherto comparable with those relentless, persistent labors, which gave us chemical compounds that at a single dose destroyed the tissue of a dread disease. What would the opponents of animal experimentation of 1876 have thought to themselves could this have been foreseen—this, which was only a beginning, with pneumonia and cancer still to be overcome?

It was declared by some people that the means did not justify the end; that it was unfair to the lower animals, some species of which, with unquestioned cruelty, men sacrificed for adornment, for sport, for coursing, for food—some of which he deliberately mutilated in the process of domestication or in preparation for his table—some of which, like the infected rats and squirrels of plague-ridden districts, he must attempt to exterminate for his self-protection.

But in the search for knowledge the investigator did not exempt himself as a subject of so-called vivisection when the lower animals did not suffice for his purpose; nor would he even hesitate to endanger his life, whatever might be the ethics of the question, if thereby information was likely to be gained concerning some disease fatal to his kind. Men in the London School of Tropical Medicine had not hesitated to submit themselves to experiment.

Would it not have been to the credit of the societies for animal welfare could such discoveries have come through their own efforts rather than through the efforts of those whose methods of research they were prone to question? Large sums of money had been wisely devoted to the prevention of cruelty to animals, and much good had been done in the past; but by a strange process

of evolution most of those now entrusted with those funds, instead of grasping the opportunity to advance knowledge of the diseases of animals, had devoted their energies to opposing such advance as might be undertaken for the sake of man, at some expense to animal life.

The future offered a great opportunity for those societies whose capital was now largely expended on the one hand in the wholesale sacrifice of stray and diseased animals, and on the other hand in destructive criticism of the methods of those they called vivisectionists. By constructive investigations, and by the employment of the same methods which had been elaborated by those whose primary object was the study of the diseases of man, they might become as great benefactors of animals, and incidentally of men, as the medical scientists had been of men, and incidentally of animals. There could be no better outlet for the present wasteful methods of many of these organizations than the establishing of veterinary hospitals, in which modern methods of treating disease could be employed, and further investigations be made. There was promise in some countries that this wise step would be taken.

The weakest point in the case of the opponents of experimentation upon animals was the fact that the animals whose preservation they thought so desirable actually benefitted from the experiments as greatly as men. The discovery of the bacterial causes of distemper would have been impossible without such experiments.

It did not seem to be realized by the opponents of such form of research as entailed experimentation upon animals how few individuals undertook it, for the work required elaborate preparation and expensive and delicate apparatus. The opponents of research need have no apprehension on the score of the infliction of pain nowadays.

Proceeding, Professor Cushing said the progress of surgery had served to break down medical sects and systems; it had been one of the greatest factors in the realignment of medicine.

Under the new conditions the physician was becoming surgicalized, just as the surgeon was becoming medicalized. The surgical specialists should represent merely grafts of the parent stem. It had been said that the specialist should be a trained physician, a skilled surgeon, and something more. But he was often something else—and something less.

As the co-operation of those expert in special lines became more and more necessary, the tendency would grow for conjoint

studies of individual cases of disease to be carried out in properly equipped hospitals, where the data essential for the diagnosis could be more quickly and effectually accumulated, and the paraphernalia for the treatment kept in smooth running order from constant use.

The more difficult and complicated problems of disease would then graduate to large institutions, where no longer "visiting" appointees, but directors of hospitals united in continuous service, and aided by a correspondingly adapted hospital administration, could uninterruptedly devote themselves to their work without entering into competition with practices beyond the walls of the institution.

Sir Thomas Barlow, moving a vote of thanks to Professor Cushing, said he trusted it would be the keynote of this Congress that the remains of the old jealousy between surgery and medicine should part for ever.

Their attention had been drawn to the enormous change in regard to the lay attitude with respect to vivisection. They knew now, to their great satisfaction, that enlightened lay men and women realized, at all events, the importance of many methods of vivisection, and the benefit they conferred upon the human race. But it should be driven home to intelligent laymen that the steps between scientific investigation and their direct utilitarian application to the benefit of mankind were not single, isolated steps, but a series of steps, and that in the initial stages of investigation the utility was not at once apparent. The justification of scientific treatment was the advancement of knowledge.

DEFECTS OF DIETARY.

EXPERIMENTS ON RATS.

In the Mechanics Theatre at the Royal College of Science the members of a sub-section of the section of chemical pathology discussed the subject of pathological conditions due to diet, under the chairmanship of Dr. F. Gowland Hopkins, of Cambridge.

Dr. H. Schaumann gave an opening address, in which he said it had been proved by recent investigations, and in opposition to the conception generally accepted until a short time ago, that complete nutrition did not depend only on the foods, content of a sufficient amount of the main nutritive substances, namely, albumen, carbo-hydrates, fat, mineral compounds, and water. The composition of the albumen ingested, and the presence in the food of certain stuffs which were unknown, and consequently neglected formerly, were of just as much importance for the maintenance of the organism in the higher animals.

The following were the results recently obtained in this field of research:

A food containing sufficient quantities of all the above-mentioned nutritive substances was nevertheless deficient when its albumin lacked certain cyclo amino-acids (acyclopoiesis or animal organism).

Complete nutrition depended further, on the presence in the respective foods of certain compounds whose existence had hitherto remained unknown or had been considered unessential. The proportions of these compounds seemed to be very small, and to vary in different foodstuffs.

One of these compounds (vitamine) had been isolated recently, in a crystalline form, and its efficiency, so far as it was an immediate one, defined.

This nitrogenous base was, apart from the nutritive stuffs already mentioned, in all probability only one of several compounds necessary for complete nutrition.

These compounds, existing in foodstuffs in a relatively very small proportion, were accumulated in a much greater amount in some animal and vegetable stuffs, such as yeasts, the pericarp of rice, barley, wheat, etc., the brain, the heart, and the eggs of mammals and birds. The striking therapeutic and prophylactic effect of these stuffs was due to this circumstance.

The respective substances seemed to exist in genuine foodstuffs in a free state, only in a small proportion. The greater number of them were probably constituents of more complicated molecules, some of them containing phosphorus (phosphatides, nucleins).

The mode of action of these compounds was very likely due to an intermediary influence upon the metabolism, and seemed to be specific for every single one.

The absence or scarcity of one or several of these compounds seemed to disturb the metabolism according to its, or their, peculiar mode of action in a specific way, originating thus more or less typical diseases (beri-beri, ship beri-beri, scurvy, Moller-Barlow's disease, pellagra, and others).

The majority of these compounds were labile (chemically unstable) and were therefore easily destroyed by long storage, long heating and cooking, alkalies and micro-organisms, or removal by husking and polishing, long cooking, extraction by salt-lye, etc.

The methods hitherto known for the preparation and isolation of this class of compounds were still very imperfect. On this account the attempts to isolate them in a pure state had not been

very satisfactory. For the same reason it was difficult to make sure whether these compounds were contained originally in the foodstuffs in a free state or combined with other substances, and of what kind the latter were.

In consequence of the difficulties it was impossible at present to draw a definite conclusion whether the efficiency of the compounds belonging to this class and containing phosphorus was partly due to the phosphorized group of the whole molecule or not. A number of observations pleaded either for this interpretation or for the eventuality that the metabolism of phosphorus was especially favored by one or several of the compounds in question.

Describing experiments upon rats, Dr. Hopkins stated that in each experiment he took a group of animals (seldom less than a dozen), and placed them upon a dietary presumed to be deficient. He then took a similar group and placed them upon exactly the same dietary, but with the addition of the substances of which the capacity to replace the deficiency was being determined. Save for presence or absence of this (usually very minute) addendum, the conditions of the two groups were in all respects the same.

In the result he found that whenever the artificial mixture, the pure protein, pure fats, together with mixed salts, formed the basis diet, young rats invariably ceased to grow. Individual varieties were, of course, seen, but within a period which was seldom less than fifteen days, the weight of each animal became stationary, or fell off.

A NEW DISEASE.

Sir William Osler presided over the section for medicine which met at the Royal Society of Medicine.

Professor N. E. Brill (New York) read a paper on an acute infectious disease similar, perhaps, to a modified form of typhus fever. He stated that he had finally succeeded in getting the clinicians in New York to recognize that this disease was an entirely different malady from typhoid fever. The disease had symptoms of a slight attack of typhus. The onset was usually sudden, with increasing fever, and it was marked by a peculiarly violent headache.

A very similar disease was known in South Africa as Potchefstroom fever. It was not contagious, and was very incommunicable, and out of 321 observed cases there was only one death. The disease was chiefly confined to the poor, though isolated

examples had been observed among the well-to-do. Dr. Brill concluded that the disease might be an atypical typhus fever.

NEW MEDICAL WEAPONS.

CHILD AILMENTS.

Dr. Eustace Smith (London), the well-known children's specialist, presided over the section devoted to the diseases of children, which met at the headquarters of the Royal Society of Medicine.

The President, in his opening address, said the time had now gone by when it was generally held that the ailments of children were in the main simple and easily recognizable; that their more serious illnesses arose as the direct consequence of the teething process; and that the treatment of their complaints might be left with confidence to anyone. Indeed, an old, so-called "experienced" nurse whose "experience" consisted only too often in doing the same wrong things over and over again, was generally held to be the best doctor for a child. That state of ignorance continued up to comparatively recent times, although attempts were made from time to time by earnest and advanced physicians to recognize, and get the profession generally to recognize, the very special characters of disease as it occurred in early life.

It was unnecessary to dilate upon the value of bacteriology as applied to clinical medicine, and the light it had thrown upon the etiology of many diseases the origin of which was formerly a mystery. In the matter of treatment, however—leaving surgery out of the question—there was still much to be desired. The serum treatment of diphtheria had no doubt met with extraordinary success. On the other hand, anti-toxin treatment by vaccines could not at present be so favorably spoken of. After failure with new methods they had to fall back upon the older approved measures, which, although for the moment out of fashion, had lost none of their former usefulness.

They must remember, however, that as yet they were only at the starting-point of an adventure which might lead far indeed, and it would be an act of no little presumption to fix a limit to what anti-toxin treatment might be expected eventually to achieve.

Still, far-reaching as the advances in their art promised to be in the future, he hoped the new weapons which had been put into their hands might not lead them to neglect the old. He was not one to underrate the value of these new weapons, for he profited by the use of them every day, but he would remind

them that their legitimate employment was to supplement and not to supersede the methods they already possessed.

In the matter of clinical examination, for instance, it was of no little moment to take heed, and their devotion to bacteriological and other methods of inquiry should not lead them to neglect the cultivation of their own unaided senses and powers of observation; for the training, at the bedside, of the eye, the ear, and the touch had lost none of its value, and was of not less importance than the microscope and the work of the laboratory.

He ventured to make this reflection because he sometimes thought he noticed a tendency amongst the rising school of medical practitioners to regard with too little respect the older methods of clinical investigation. To the young the new was ever attractive, and he thought he saw a real danger lest the seduction of novelty and the charm of ingenious device should so engross the attention as to force older and well-proved methods into the background.

TUBERCULOSIS IN CHILDREN.

IMPORTANCE OF MILK SUPPLY.

The treatment of tuberculosis in children formed the subject of an interesting discussion.

Dr. Harold J. Stiles (Edinburgh), who dealt with the necessity for a more thorough control of the milk supply in combating surgical tuberculosis, said that, as the result of his clinical experience in the Royal Edinburgh Hospital for Sick Children, he had for many years been convinced that Koch and his disciples committed a serious error in practically disregarding milk as a source of the tuberculous infection in children. He could adduce many instances from his own personal observation where the etiological relationship between the disease and the "milk history" of the child was so closely associated as to amount almost to proof that the bovine bacillus was the source of infection.

Having regard to the present inadequacy of the control of the milk supply, it had always been a matter of surprise to him that the medical profession in this country should still encourage the use of raw milk in the bringing up of infants and young children. Professor Délépine has shown that at least 10 per cent. of the milk supply of our large cities was tuberculous. There could be no doubt, therefore, that under the present unsatisfactory legislative control of bovine tuberculosis and of the milk supply, sterilization of the milk was the only reliable prophylactic measure we possess if we wished to safeguard our children against acquiring bovine tuberculosis.

He had long been convinced that the reason why surgical tuberculosis was so prevalent amongst the children in this country was (1) because of the prevalence of tuberculosis amongst dairy cows, and (2) because it was the exception rather than the rule to sterilize the milk.

In his opinion the stamping out of bovine tuberculosis amongst dairy cows would, in the long run, prove to be a more economical method of dealing with surgical tuberculosis than the building of special hospitals for its treatment.

Unfortunately, the stamping out of bovine tuberculosis would take time, and until we had a more perfect system of segregation of human consumptives we should still have to make provision for the treatment of surgical tuberculosis due to the human bacillus. It was to be hoped, therefore, that an adequate proportion of the money provided by the National Insurance Act for treating tuberculosis would be devoted to providing country hospitals for the treatment of surgical tuberculosis by conservative means. Moreover, there should be an endeavor made to co-ordinate the work done in such institutions with that which would still remain to be done in our large general and children's hospitals.

DUST AND LUNG DISEASE.

"The Effects of Dust in Producing Diseases of the Lungs" was the topic of most general interest discussed before the Section of Hygiene and Preventive Medicine, which met in the Lecture Theatre of the Victoria and Albert Museum, South Kensington.

Dr. Edgar L. Collis, His Majesty's medical inspector of factories, said that until recent years the tendency had been to consider, as a broad truth, that dust inhalation predisposed to diseases of the chest, of which pulmonary tuberculosis was the chief. Closer investigation, however, was proving that the subject was more complicated; that respiratory diseases caused by dust varied with the nature of the dust inhaled; that although a special type of pulmonary tuberculosis followed upon the inhalation of certain dusts, it was not associated with the inhalation of all kinds of dust; and that other forms of chest disease, which, though not equally fatal, seriously impaired the respiratory organs, were set up by inhaling special forms of dust. His object, he proceeded to say, was to demonstrate some of these differences, and to point out that there was underlying the phenomena, order, even though at present but imperfectly understood.

Dusts, he further explained, might be considered in three classes—animal, vegetable, and mineral. Animal dusts included

horn, bone, leather, silk, and wool; vegetable dusts included wood, jute, flax, hemp, cotton, cork, and flour; while mineral dusts embraced many different materials, such as iron, steel, and brass, plaster of Paris, cement, lime, glass, slag-wool, emery, clay, stone, alabaster, quartz, and flint.

Discussing "cotton-strippers' asthma," Dr. Collis showed that the trouble was rapidly disappearing owing to improved methods of dust prevention, which were even enabling affected men to resume their employment. Considerable ingenuity had been displayed in perfecting these methods, and pardonable satisfaction might be expressed that four years after attention was drawn to "strippers' asthma," not only were effective means for removing the dust installed in every spinning mill in Lancashire, but the example set by this country was being followed in mills abroad.

GROWTH OF LUNACY.

Sir J. Crichton Browne, who presided over the Psychiatry Section, drew attention in his opening address to the increase of lunacy during the past half-century, and emphasized the need for further investigations.

In nearly all settled countries from which trustworthy evidence was forthcoming, he said, the number of lunatics was increasing out of proportion to the increase of population. In this country, in 1859, the number of notified insane persons was 36,762; while on the first day of 1913 it was 138,377, an increase of 276.4 per cent., as compared with an increase of population in the same period of only 87.5 per cent.

Various plausible explanations were advanced to account for this enormous increase. No doubt much of it had been due to more accurate registration and to the accumulation in our hospitals of chronic patients whose lives had been prolonged by improved nursing and hospital care. But that would not account for all of it, and the disquieting fact remained that that increase had gone on, and was going on, while many of the best recognized etiological factors of insanity had been curtailed in their operation.

There seemed to be no good reason why insanity should increase, even in proportion, in a vigorous, expanding race. That it should increase at a rate so vastly in excess of the increase of population, while a notable fall in the death-rate, betokened an improvement in the general health of the people, and while a marked amelioration of their condition as regarded feeding, clothing and sanitation had resulted in a decided increase in the average duration of life, was well calculated to cause anxiety.

HEREDITARY PREDISPOSITION.

The segregation of so large a number of the insane ought to have diminished the propagation of that hereditary predisposition to insanity or neopathic taint, which was so largely responsible for mental disease. The diminished consumption of alcohol and the increased sobriety of our people ought to have been followed by a reduction in the number of these cases of insanity in which alcohol was a principal cause, just as it had been followed by a reduction in the number of cases of delirium tremens and cirrhosis of the liver.

The fall in the death-rate from tuberculosis, which sent a certain number of patients to our asylums and figured so largely in their mortality, should have entailed a drop in the admission into them. Puerperal sepsis, which was productive of insanity in some women predisposed to it, by reason of inherited instability, was a disappearing quantity, and we should have some corresponding relief in the pressure on our lunatic hospitals. Syphilis, which bulked largely as a cause of insanity in some of its more fatal forms, was a waning disease; but we would look in vain for some abatement of the heavy toll which insanity exacted. Influenza, from which we had enjoyed comparative immunity of recent years—the death-rate from it had not exceeded one-half of what it was in 1900—had been a prolific cause of mental breakdown, and the decline in its prevalence and severity should have been perceptible in some shrinking of our mass of lunacy.

The six indubitable causes of insanity took a primary or contributory part in the production of 47 per cent. of the male and 39.4 per cent. of the female admissions to our institutions for lunatics in this country. All these causes had undergone a material restriction in their range of action of late years, while the admissions to institutions for the insane had undergone no equivalent reduction, but had steadily increased, and the accumulation of chronic lunatics rolled on apace.

NEW CAUSES OF INSANITY.

It was clear, therefore, that if some of the most potent causes of insanity had become less active than they had been, other causes had become more active, or new causes had come into play. There was assuredly an urgent call for an investigation wider and more searching than any that had as yet taken place into the causes of insanity and the correlations and incidence, and such an investigation could not but be facilitated by the interchange at a congress like this.

While the preventive side of psychiatric medicine, founded on the aetiological study of insanity, was its most hopeful aspect, its therapeutical side must not be neglected. Notwithstanding the vast sums expended on their construction, and their improved administration, the rate of recovery in our asylums had fallen during the last fifty years. The lowering of the rate was probably in some measure to be ascribed to the cumulation of chronic cases and to the increased resort to asylums in the case of patients whose age and mental and physical condition precluded all hope of recovery. But, allowing for all that, it was clear that there had been no notable or efficacious advance in the remedial treatment of insanity during the period named, and that there was need for increased strenuousness in that clinical, pathological, and psychological investigation of it which a congress like this must stimulate.

The general health prospect of the country was brightening all round, but over our lunatic asylums there was a settled gloom. Great as had been the progress made, innumerable and momentous problems still solicited attention.

ORIGIN OF LIFE.

DR. BASTIAN'S CLAIM.

Dr. Charlton Bastian, consulting physician to the University College Hospital and the National Hospital for Nervous Diseases, in Queen Square, gave a remarkable demonstration of bodies said to be living organisms, and to have been spontaneously generated in the course of some of his experiments. At first sight this claim appears to be simple enough, because the mind scarcely realizes at once the magnitude of its significance. But Dr. Bastian, in fact, told the members of the conference that he had performed certain experiments with chemical fluids, which at the beginning were absolutely free from living forms of any kind, and that during his investigations living beings—minute, indeed, but nevertheless alive—came into existence.

This can have only one meaning, namely, that the distinguished investigator believes himself to have witnessed the origin of life itself. He started with chemical solutions from which all living things—even the tiniest microbes—were, as far as possible, rigorously excluded. He continued by sealing his solutions in tubes, to which there could be no entry of life from without. He then exposed them to great heat on three successive days; exposed them to temperatures that must certainly have destroyed all known living things, such as microbes, animalcules, or lowly plants of any kind. Dr. Bastian, indeed, carried out all these precautions with such thoroughness that it cannot be

doubted that the sterilizing processes gone through were sufficient to kill any pre-existing living thing. Yet a few months after he is able to demonstrate in his sealed tubes forms of matter that even to experts have the very closest resemblance to elementary forms of vegetable life.

LONG ERAS OF EVOLUTION.

One asks the question, can it be possible that there is no error in the experiment—that, after all, this distinguished savant has found the key to the great origin of life in a small, sealed glass tube, containing a simple mixture of metallic salts and water? At the British Association meeting last year Sir Edward Schäfer created a great sensation by expressing the opinion that it is now not unreasonable to forecast the actual creation of new living matter in the laboratory, and he stated that, whilst it was out of the question to suppose that highly-organized and complex beings, such as a worm even, would ever be manufactured by scientific methods, there was no known difference between non-living and living matter from the chemical point of view, such as would make it appear an utterly hopeless task to build up the constitution of protoplasm (the essential basis of all living tissues), from simple chemical substances.

The most elementary forms of life of which we have any knowledge consist of little bodies like jelly, which, seen through the microscope, might be quite inert to those ignorant of their true nature; and it is an accepted theory to-day that even the most complex forms of life, such as the higher animals and man himself, are the product of long eras of evolution, billions of years, perhaps, being taken up in the advance from one small stage to another. So that the scientist would expect that, should his efforts to create life in the laboratory be rewarded with success, his production will be nothing more than a little jelly, invisible without the aid of a powerful microscope, yet differing from ordinary dead matter, in that it would have powers of reproducing itself, and possibly of some movement. Certainly it would possess powers of building itself up anew, and replacing waste, from the fluids of its environment.

THE POSSIBILITY OF ERROR.

As Professor Schäfer pointed out, up to the time of the great Pasteur many authorities had believed in the constant creation of microscopic germs, and, indeed, believed that that was how microbes and small animal organisms arose—in the course of putrefaction, for example. However, since the brilliant demonstrations of that time showed conclusively that minute spores, literally seeds of microbes, would exist indefinitely in dry

form or in liquid solution, resisting even great heat, and that these are the cause of the formation of microbes in solutions supposed to have been freed from them, few persons of eminence up to our own time have adhered to the old beliefs. On the other hand, Dr. Charlton Bastian believes in such new life-generation.

With regard to such alleged forms of life, as shown by him yesterday, Professor Schäfer has said that he could not possibly believe that there had been no error in experiment. He stated that: "The appearance of organisms in such flasks would not furnish to my mind proof that they were the result of spontaneous generation. Assuming no fault in manipulation or fallacy in observation, I should find it simpler to believe that the germs of such organisms have resisted the effects of prolonged heat than that they became generated spontaneously. If spontaneous generation is possible, we cannot expect it to take the form of living beings, which show so marked a degree of differentiation, both structural and functional, as the organisms which are described as making their appearance in these experimental flasks."

He thus voiced the general scientific opinion of the day that these are mechanical productions taking the shape of living things. In this connection it is interesting to note that a distinguished botanist, unaware of its source, pronounced a certain specimen of Dr. Bastian's "organisms" to be a form of yeast.

PROTRACTED EXPERIMENTS.

The fact remains that Dr. Bastian yesterday not only showed bodies that to all intents and purposes are organisms resembling yeast and other moulds, but he further demonstrated similar specimens taken from other of his previous sealed tubes, which had been placed for several days under favorable conditions for stimulating their growth, and which appear to have multiplied very considerably. Dr. Bastian considers that his experiments conclusively show the origin of living organisms, which not only grow themselves, but can reproduce their species. He has carried on his experiments year after year in face of great opposition from other leading scientific men of the day, and for his own part is convinced that his theories are correct.

The solutions used by Dr. Bastian in his experiments consist of such simple substances as pernitrate of iron, sodium silicate, and phosphoric acid, mixed in certain proportions and dissolved in distilled water. After the mixing of a solution it is sterilized, and then simply exposed to the action of diffuse sunlight for some weeks or months. Dr. Bastian himself believes that it is light that is the chief agent in the production of his interesting specimens.

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, F. A. CLARKSON, BREFNEY
O'REILLY AND F. C. HARRISON.

Toxaemic Asystole

Debove. (*La Presse Médicale*.) The term "asystole" is used by the French to describe what is more accurately known as "hyposystole," that is, cardiac decompensation characterized by increased frequency of the heart's action, breathlessness, œdema and congestion of the liver. In this article Prof. Debove gives his reasons for considering that these symptoms are in reality due to the presence of some toxin in the blood.

He points out that acceleration and arrhythmia of the pulse is a symptom of many toxæmias, and is seen at its best in certain of the acute infectious fevers. The heart in these cases is influenced through its nervous connections.

Shortness of breath is again typically seen in toxic states, the infectious fevers again being quoted. The breathlessness of renal disease is certainly toxic.

In the production of œdema the author considers that to preserve the purity of the blood certain deleterious substances are removed from it and deposited provisionally in the tissues. Water is drawn over into such tissues to preserve the isotonicity necessary. The resulting œdema of course would affect all parts of the body equally; mechanical influences account for the deposition in dependent parts, but not for the œdema fluid itself.

The jaundice so frequently seen in cases of failing compensation is ascribed to the destruction of the red blood corpuscles under toxic influence in increased amount.

Some experiments on rabbits by MM. Ambard and Morel are mentioned, in which certain symptoms of hyposystole were noticed after the application of a tight rubber strap around the abdomen. The writer considers that the ligature disturbs the lymph circulation, increases the amount of waste products in the lymph and ultimately poisons the heart.

He looks upon polyuria as the cause and not the effect of improvement in cases of heart failure, the improvement being due to the increased elimination of toxic substances from the organism.—*Medical Chronicle*

Fibromatosis of the Stomach

Alexis Thomson and James Graham contribute an instructive article on this subject to the *Edinburgh Med. Journ.* for July, 1913. After describing in detail their own observations derived from a considerable number of specimens, they criticise other views that have been put forward and give their own conclusions.

The absence of characteristic granulation tissue and of endarteritis and a negative Wassermann reaction put out of court a syphilitic pathogenesis, though of course the possibility of a gumma of the pylorus causing stenosis is admitted.

A specimen showing cancer and tuberculosis was examined and led them to the conclusion that fibromatosis was neither directly tuberculous, nor yet due to the attenuated form of tubercular infection described by Poncet. They are also enabled to affirm most positively that fibromatosis may occur without the presence of cancer. Fibromatosis is an innocent affection of the stomach and is invariably associated with an ulcer.

When fibromatosis is associated with a deep punched-out ulcer, the mucosa over the surrounding fibromatosis may be normal. This appears to indicate that submucous fibromatosis is not the cause of the overlying ulceration.

The changes in the mucosa are primary and the submucous fibromatosis is secondary. The diffusion of the fibromatosis from the submucosa into the mucosal coat, especially along the lesser curvature, and its sudden arrest at the pyloric ring, suggest that some irritant toxin is being absorbed from the ulcer and in its passage along the lymphatics sets up this marked reaction.

Since ulcer precedes fibromatosis it is fairly common to find cancer as well. Attention is directed to the interesting observation that fibromatosis of the duodenum has not been recorded. The duodenum, as we know, is practically immune to cancer, in spite of the great frequency of ulceration.

In fibromatosis there is often a palpable tumor, and usually no free hydrochloric acid, so the diagnosis of cancer is confidently assumed. Owing to the difficulty of naked eye differentiation from cancer and the total unreliability of "while-you-wait histology," the authors advise resection of the affected parts.—*The Universal Medical Record*.

SURGERY

IN CHARGE OF E. E. KING, G. A. BINGHAM AND
C. B. SHUTTLEWORTH.

Gallstones: A Plea for Earlier Operation

Power (D'Arcy). (*British Journ. of Surg.*, 1913.) This paper is based upon personal observation of 90 cases seen during 1900—1912, and here tabulated. In 73 cases the patients suffered from cholelithiasis; in the remaining 17 there were inflammations of the gall bladder, due to various causes, but no gall-stones. Fifty-eight were females, 32 males. The *ages* varied from 5 years to 82 years. The *symptoms* had lasted from a few days to twenty years or more. Fifty-seven patients were *jaundiced* at some period of the illness. The gall-bladder was palpable through the abdominal wall in 28 cases. Except in the fattest people there was a localized tension of the abdominal wall in the right hypochondrium, even when there was no localized tenderness. Many of the patients had been treated for very long period, some knowingly for gall-stones, others for "indigestion," a few for ague or some other form of intermittent fever. *All* had suffered from attacks of biliary colic, some, however, only slightly, others so frequently and severely that they were at last driven to surgery for relief, whilst others had suffered from a single attack of such severity that immediate operation was required.

The *operation performed* in most cases was opening and draining the gall-bladder, and allowing it to heal by granulation. In only a few cases was the "ideal" operation performed. Lately cholecystectomy had been more frequently employed, as the writer believes this diminishes the risk of recurrence of biliary calculi.

The *operative results* were: 26 *simple* gall-stone operations without a death; 27 slightly complicated gall-stone operations with 6 deaths; 20 "seriously complicated" gall-stone operations with 11 deaths. Total mortality, 23.3 per cent.

The *final results* were ascertained in 23 patients who had recovered from operations for gall-stones. Three had died from causes unconnected with liver or gall-bladder; 14 were alive and in good health without any return of symptoms; 4 complained of attacks of pain from time to time, but this was not of a colicky nature but rather dragging, probably from adhesions. In no

case was there any evidence of fresh gall-stones having formed. In no case did a permanent fistula result. In 2 cases ventral hernia formed after operation for abscess in the neighborhood of the gall-bladder. Even after operation for gall-stones the writer enjoins care, e.g., more fluid, more exercise and more careful regulation of the bowels, to prevent their re-formation, and to cure the chronic cholangitis which is usually present.

He sums up his conclusions thus:

1. The removal of gall stones is not attended by serious risks in uncomplicated cases.

2. The continued presence of gall-stones in the gall-bladder and bile ducts leads to chronic inflammation of the neighboring tissues and organs.

3. This chronic inflammation is the chief cause of the complications which increase the danger attending operation for the removal of gall-stones.

4. Early operation is the best method of avoiding complications.

5. Early operation demands early diagnosis. It is the duty, therefore, of the general practitioner to examine his cases of chronic dyspepsia with greater care, and not to wait until attacks of jaundice, biliary colic, or even more acute symptoms make an examination of the gall-bladder imperative. The earlier the diagnosis is made the less will be the average mortality of the operation.—*The Medical Chronicle*.

Two New Methods of Skin Grafting

We are all familiar with the difficulty involved in covering large granulating areas with epithelium, especially those chronic ulcers which remain after extensive burns. One therefore welcomes any new suggestion that holds out some prospect of cure in these cases.

Macleannan, in *The Practitioner* for July, 1913, describes two new methods which he calls "tunnel" and "caterpillar" skin grafting. They are designed to eliminate some of the difficulties one has so often met with, and certainly appear to be an advance on previous attempts. In Macleannan's hands they have yielded excellent results. The granulating surface is rendered as clean as possible by frequent dressings. The part chosen for removal of the skin graft is washed with soap and water, followed by spirit, then an 8 per cent. scarlet red ointment is applied for 24

hours. After a final wash with spirit a long strip of cutis without fat is removed. The strip is as broad as is compatible with easy closure of the wound. From the strip are now cut narrow slips one-quarter inch broad and one to two inches long. Tunnels are then made in the ulcer with sinus forceps down in the fibrous layer below the granulations and the slips of skin inserted. A thread of horse hair is also passed through the tunnel and knotted above so as to indicate the site of a buried graft. Otherwise many grafts are lost and are eaten up by the phagocytic action of the granulation tissue. After five to seven days the granulations overlying the grafts are removed and the edges around them are bevelled down.

By the "caterpillar" method long strips of healthy skin can be planted right across the ulcer. A long strip of skin is cut running right up to, but not entering the ulcer. The flap is then doubled on itself at its attachment close to the ulcer, and its free apex stitched in its new position. A piece of gauze is inserted to prevent the surfaces of the flap adhering. When the flap has acquired a firm hold the incisions are prolonged across the ulcer, the granulations raised, and the skin strip walks across the ulcer with arched back like a caterpillar. The flap should be an inch broad and not more than five inches long.

Maclellan figures some interesting illustrative cases, and also clearly portrays the meaning of the text with diagrams.—*The Universal Medical Record*.

Three Unusual Cases of Renal Tumor

Joly (*Practitioner*) reports the operative treatment he employed in the radical removal of kidney tumors. A case of hypernephroma and one of primary cancer of the kidney made excellent recoveries, and remained well, without any sign of recurrence about two years after the operation. The third case, also of hypernephroma, lost so much blood before he would consent to operation, that a fatal termination occurred. The writer removes the fatty capsule unopened with the kidney enclosed, in each case. He describes the following incision and procedure which gave him very good access to the malignant renal growth. The vertical limb was five inches long and parallel to and immediately outside the left linea semilunaris, its centre being opposite the umbilicus. The tumor was palpated through this opening and proved to be renal in origin. The pedicle was free from induration and there were no glands along the aorta. The peri-

toneum was closed, and a long incision made from the centre of the first one outwards and slightly upwards to a point about an inch below and in front of the tip of the last rib. The peritoneum was exposed in the anterior part of the incision, and the perinephritic fat in the posterior. The peritoneum was raised from the front of the tumor, and retracted inwards towards the middle line. Next the hand was insinuated behind the fatty capsule, which was separated from the muscles of the lumbar fossa. Finally the kidney (enclosed in its fatty capsule) was completely freed from all its connections, except those on its inner aspect. The ureter was divided just above the brim of the pelvis. The tumor was retracted strongly outwards, and the tissues separated from the side of the aorta. This dissection was made from below upwards. When the renal pedicle was reached, it was clamped and divided, as were also the capsular vessels. The tumor was thus completely freed and removed out of the lumbar fossa. It weighed $3\frac{3}{4}$ lbs. The patient made a good recovery and gained 4 stone in weight. In spite of the pain due to this, the abdominal wall remained quite firm, and there was no evidence of recurrence a year and nine months later.

Does Appendectomy Always Relieve Symptoms?

Scudder and Goodall (*Publications of Massachusetts General Hospital*), analyzed the results, a year after operation, in 640 cases of appendectomy, of which 28.8 per cent. were females and 72.2 per cent. males, the great majority occurring between 10 and 30 years of age; 61 reported from one to five years after operation, 560 from five to fifteen years, and 18 from fifteen to twenty-two; 606 cases (94.6 per cent.) reported perfectly well, and of these 95 said that they were in better health than before operation, while 26 cases (4.6 per cent.) reported poor health after operation, and 8 as in poor health both before and after operation. Drained cases were found to be more liable to hernia in the cicatrix than undrained cases. From the series examined, the operation in general benefited the patients, and there were no distressing sequelæ. It was impossible to determine the reason for post-operative pain, but in 88 cases of varying severity it was thought that this was occasioned by adhesions. Since 94 per cent. were completely relieved, there is no support for the view that appendectomy is often followed by no relief of symptoms.

OBSTETRICS AND GYNAECOLOGY

IN CHARGE OF ADAM H. WRIGHT, K. C. M'ILWRAITH, AND HELEN
MACMURCHY.

The Treatment of Diabetes and Pregnancy

Dr. Reynold Webb Wilcox, of New York, stated that the treatment of a diabetic woman who had become pregnant was as follows: If hydramnios existed, usually in about one-third of the instances, or the amount of glucose in the urine was excessive and uninfluenced by treatment, or the loss of flesh or strength was marked and, absolutely, if the foetus was dead, the uterus should be emptied at once. The viability of the child was usually problematical. A diabetic woman should not marry or, if married, should not be allowed to become pregnant. If a pregnant woman had become diabetic, the dangers of labor were increased, not only from impaired vitality and lessened resistance to infection on the part of the mother, but because in severe diabetes a dead and even macerated child might result, or, if the disease was mild, one of inordinate size, which, if the time of labor was not anticipated by operative interference, might endanger the life of both. By succeeding pregnancies a curable might be converted into an incurable diabetes. In the glycosuria of pregnancy each patient must be carefully studied, and the procedure adopted that was justified by the condition of the patient and the persistence of this symptom.—*N. Y. Med. Jour.*

Pituitary Extract

To sum up we may state that:

1. Pituitary extracts have a powerful effect in inducing and in strengthening uterine contractions.
2. The type of contractions induced is similar to that which occurs normally, although at first there may be a tendency to prolongation of the pains.
3. Such prolonged contractions result in slowing of the foetal heart, but the child is seldom in danger.
4. When given in the late part of the first and in the second stage of full time labor the polarity of the uterine contractions is not interfered with, but in early abortions and early in the first stage a simultaneous spasm of the os may occur.

5. Its chief field of usefulness is in the first and second stages of labor, when there is delay due to feebleness of the pains, alone or when combined with other complications, such as malpositions of head, malpresentations, multiple pregnancy, slight narrowing of the pelvis, etc.

6. In the induction of abortion, in the treatment of abortion already in progress, and in incomplete abortion, its action is so uncertain that it is not to be recommended, except in cases where the os is widely dilated.

7. In the induction of premature labor its effects are uncertain, but if sufficient dosage be given they may be good.

8. In the induction of labor at full term and after better results are obtained than in premature cases.

9. It gives good results in many cases of post-partum hæmorrhage, but is not superior to the various preparations of ergot. It has the power of sensitising the uterus, so as to allow these preparations to act more powerfully, the combination being most effective.

10. It is a useful adjunct in the treatment of placenta prævia, used in conjunction with rupture of the membranes, the use of hydrostatic dilators, or turning.—*B. P. Watson, Can. Med. Asso. Jour.*

Case of Hydatidiform Degeneration of the Chorion. By W. BUTEMENT, M.B.

M. S., married, 25 years of age, two children. When first seen was three months past a menstrual period, and showed all the signs of early pregnancy. Hæmorrhage for a few days, which, after rest in bed, ceased. When about four months pregnant bleeding commenced again, and continued to 5½ months; hæmorrhage watery and not very profuse. At 4½ months the patient was convinced she had felt movements. (?) Examination seemed to show a normal condition, but placenta somewhat low on left side. At five months uterine enlargement progressive, but the uterus was flaccid and slightly boggy. Breasts flaccid and returned to the normal; now pregnant condition, no fluid; patient felt no movements and had a sense of weight in pelvis; skin sallow and somewhat cachectic. There were no fetal sounds. Concluded that fetus was dead. 5½ months: Held the same opinion, though uterus still increased in size. Patient much the same; watery hæmorrhage all the time. Dilated slightly, and found no membrane within reach, and placenta low down on left side. (Uterus size about 6½ months' pregnancy).

Two days later uterine contraction took place, and the patient passed a grape-like body, and I now diagnosed hydatidiform degeneration. When dilatation was sufficient, I used curette and finger, and emptied uterus. The patient lost a large quantity of blood, and was very weak under the anæsthetic.

The growth had penetrated the uterine wall deeply, and great care was necessary in removal, as about half the uterine surface was involved. The patient died about five hours after the removal, from shock and hæmorrhage, in spite of pituitrin, ergot and strychnine, etc.—*Austral. Med. Gaz.*

The Grave Vomiting of Pregnancy

It is not every case of grave vomiting of pregnancy that calls for the induction of abortion, for it is not every case that is caused by the biochemical changes which are the result of pregnancy. Even if every instance of hyperemesis gravidarum were toxic in its nature, it would not necessarily call for the termination of the pregnancy. There are other ways of dealing with this dangerous complication of gestation than by bringing the gestation to an end, a method of treatment which Fieux characterizes, with reason, as “ultra radical,” and speaks of, without exaggeration, as the “cruel necessity of therapeutic abortion.” Fieux himself has succeeded in curing four cases of “uncontrollable vomiting” of pregnancy by means of serotherapy. In two instances he injected serum from a woman in the early months of a normal pregnancy; in another instance he used horse serum along with that from a normal pregnant patient, and in the fourth case he employed only horse serum. The explanation of the good result in three of these cases may very easily be ascribed to antibodies developed in the maternal blood serum in response to chorionic antigens; but the equal success when horse serum alone was used is puzzling. Still, the outstanding lesson to be learnt is that there is another way of treating even the toxic cases of hyperemesis; the “ultra-radical” plan of therapeutic abortion is not the only method which promises good success.—*B. M. J.*

OPHTHALMOLOGY AND OTOTOLOGY

IN CHARGE OF MORTIMER LYON.

Dr. Fred W. Bailey, in *Journal of the Iowa State Medical Society*, calls attention to the fact that in habit chorea eye strain is very frequently a cause, which may be demonstrated directly. Even in true chorea correction of this affection is usually followed by beneficial results.

L. B. Whitham, of Baltimore, writing in the *Ophthalmoscope* for February, 1913, discusses the results of some experiments performed with the idea of elucidating the clinical successes obtained by Gifford and others, in treating sympathetic ophthalmia by massive doses of salicylic compounds. Gifford's own hypothesis is that the drug depletes the inflamed tissues by occasioning general capillary distension. Whitham, however, has apparently demonstrated the excretion of salicylic acid into the aqueous and is inclined to find the explanation of its beneficent action in this fact. It is interesting to note that the experiments suggest why hexamethylene-salicylate should give better results than any other form of salicylate, and Whitham adds that a freshly prepared saturated solution ought always to be prescribed.—*Universal Medical Record*.

The Medical Standard quotes from Col. Roosevelt's autobiography, now running serially in *The Outlook*. It may have some influence on those who are so opposed to medical inspection in our schools.

Any oculist and thousands of parents can quote similar experiences to Col. Roosevelt's with patients and children. A visit to any hospital clinic or dental clinic would convince the most sceptical of the value of medical inspection in our public schools.

Col. Roosevelt, in speaking of his defective eyesight, says:

"It was this summer that I got my first gun, and it puzzled me to find that my companions seemed to see things to shoot at which I could not see at all. One day they read aloud an advertisement in huge letters on a distant billboard, and I then realized that something was the matter, for not only was I unable

to read the sign but I could not even see the letters. I spoke of this to my father, and soon afterward got my first pair of spectacles, which literally opened an entirely new world to me. I had no idea how beautiful the world was until I got those spectacles.

"I had been a clumsy and awkward little boy, and while much of my clumsiness and awkwardness was doubtless due to general characteristics, a good deal of it was due to the fact that I could not see and yet was wholly ignorant that I was not seeing. The recollection of this experience gives me a keen sympathy with those who are trying in our public schools and elsewhere to remove the physical causes of deficiency in children, who are often unjustly blamed for being obstinate or unambitious or mentally stupid."

Gonorrhoeal Infection in Eye Diseases

Bernard Cridland concludes an excellent paper that appears in *The Ophthalmoscope* for February, 1913, by "a word or two on treatment." He remarks that the various conditions demand the local treatment suitable to the situation of the inflammation. In direct infection a gonococcal vaccine may be made from the micro-organisms present in the conjunctival sac, but, inasmuch as gonorrhoeal conjunctivitis is a disease which tends to get well of itself, all that can be expected of such treatment is that it may cut short the duration of the inflammation. Vaccine might be of service when ulceration of the cornea is present as a complication, but as it is not proved that this is actually due to the gonococcus, the administration of a gonococcal vaccine could hardly be adopted on other than empirical grounds, though a mixed vaccine might possibly be of service.

It is otherwise with cases of iritis, etc., due to systemic infection, and here we may confidently look to obtaining the most brilliant results from the use of a vaccine; and to a certain extent the cases already reported bear this out. On the question of vaccine therapy in general, a statement by Horder that vaccine therapy is an effective method in combating an important factor—maybe *the* most important factor—in the struggle between the tissues and many infecting agents, is of interest. Horder believes, however, that there are other factors in this struggle which are not touched by the use of vaccines, and that this natural limitation does exist, though at present it is quite undefined. Too much, then, must not be expected from these means.
—*Universal Medical Record*.

In this connection we must urge the medical attendant to guard against roughness by the nurse or attendant in the treatment of gonorrhœal conjunctivitis. It is very easy to abrade the cornea, already often somewhat œdematous in the superficial layer. Ulceration speedily ensues and the prognosis becomes very grave.

Objective Noises in the Ear

In the *Universal Medical Record* an interesting case is cited from *La Simana Médica* of Dr. Bottella of Martinez. A child of six, who had never had any ear affection, was noticed by the father to emit a sighing sound from the head. Nothing amiss was found in hearing. The sighing was most intense over the mastoid antrum, was isochronic with the pulse, diminished on bending the head, and stopped when the internal carotid was compressed. A fortnight later, when the writer wished to demonstrate the case, the sound was not perceptible.

Botella's first diagnosis was a vascular sound, probably due to aneurysm of the middle meningeal, but the gradual disappearance made this untenable. He now considers it originated in the jugular vein, with anæmia as a contributing cause.

"Muscular" noises are due to spasmodic contractions of the soft palate, drum, etc., and occur in persons run down.

"Vascular" noises are usually due to aneurysm, dilatation of the jugular—anæmia.

Case of Disease in the Pituitary Region, presented by Mr. J. B. Lawford at the Ophthalmological Section of the Royal Society of Medicine.

F. R., agent, 46. Sight has been failing rapidly for four months. R.V. 1/60, L.V. 1/60. Ophthalmoscope shows optic atrophy. O.D. very pale, not sharply defined. Media clear. No choroidal lesions. Fields of vision show incomplete bi-temporal hemianopia. Pupils react to light and convergence. A hemiopic pupillary reaction is sometimes demonstrable.

For the last four months patient has been liable to moderately severe headache, generally frontal, not always localized. No vomiting or vertigo. Loss of sexual power for last six months. Has always had good health. Has five healthy children. No miscarriages. No history of syphilis and Wassermann negative. Knee jerks brisk, other reflexes normal. Urine normal. No

motor or sensory paralysis. No proptosis. No interference with ocular movements. Skin not dry. No loss of hair. Dr. Turney reports no sign of acromegaly (apart from the optic nerve condition). No disease of accessory sinuses. X-ray shows no abnormality of bones of the base of the skull. Sella turcica not enlarged. No loss of sense of smell.

Patient at present is drowsy, with frequent frontal headache. Always sick after administration of pituitary extract. Temperature normal or slightly subnormal. Pulse rather rapid. Vision has deteriorated to R. 1/60, L. 2/60. Some improvement in right temporal field of vision. Movements becoming awkward.

Case of Secondary Haemorrhages in the Retina in Secondary Anaemia

Dr. W. Hale White presented the following case at a meeting of the Clinical Section of the Royal Society of Medicine:

E. B., aged 43, admitted into Guy's Hospital for extreme weakness. She was very wasted and of a grey, anæmic tint. A tumor about the size of a hen's egg could be felt in the region of the caecum. Examination of the retina showed minute hæmorrhages of various shapes and sizes, but mostly little round dots. These were seen in both eyes.

After death examination showed cancer of the caecum. There were no secondary deposits. There were subhyaloid hæmorrhages in both eyes.

Editorials.

THE INTERNATIONAL MEDICAL CONGRESS

A very able editorial discussing the lessons of the Congress appeared in the *Times* (London), August 14th. We desire to extract from that and give practically a synopsis of it, at the same time regretting that we have not space for the whole article. The Congress is a thing of the past, but its influence will live and bear fruit. That it has been successful beyond all precedents is universally recognized. The President, Sir Thomas Barlow, discharged his duties with dignity and urbanity. The General Secretary, Dr. W. P. Herringham and his staff worked with wondrous zeal, and the results were in every respect satisfactory. The meeting was great in every sense of the word—in the range of subjects, in the quality of the discussions, and above all in the tone pervading the meetings throughout. There was a sustained vivacity and interest, a sense of buoyancy, such as we cannot remember on any similar occasion. There were irreconcilable differences of opinion and vigorous controversies, but they were conducted without acrimony. Tolerance, readiness to relinquish theories, breadth of mind, moderate claims and generous recognition of the work of others were never so generously and sincerely displayed. In this Professor Ehrlich, by common consent, the most distinguished figure at the Congress, set a fine example. His address on pathology and his opening contribution to the discussion on salvarsan were models of authoritative but modest exposition.

For a time—a generation ago—surgery was advancing more rapidly than medicine, but now we find a change in that regard. The development of parasitology with all its attendant lines of research, the elucidation of the ductless glands, and of the hidden course of the blood have brought physicians scientifically and clinically abreast of their colleagues, and the two march together on a common road as they have never done before.

The Congress has negatively disposed of one important point. It has definitely thrown over the system of police control of prostitution. However effective it may be in particular circumstances it is worse than useless in the large cities of to-day because it provides a false security. The plan recommended by the Congress and already in use in some places is confidential notification with systematic diagnosis and treatment. We fear that public opinion is not ready to approve notification here; but we believe that the preliminary investigation promised by the Government is a wise step. Another subject to which it applies is eugenics, and we are glad to note the rebuke administered by Professor Bateson to too ardent votaries of this cult.

ANTI-TUBERCULOSIS CONGRESS

The Eleventh Anti-tuberculosis Congress will be held this year in Berlin, October 22-26. We understand that nearly all the countries of the world will be represented by delegates. No actual "cure" for tuberculosis can be reported, but encouraging progress will be recorded toward the control of the disease by

natural restorative means, good food, fresh air, etc. We are told by the *Toronto Mail and Empire* that Dr. Friedmann has not offered to read a paper. It is also stated that no place would have been given him on the programme had he made any offer. The German experts are more than ever skeptical as to his so-called cure, and still insist on the submission of the Friedmann serum to the proper tests. The visitors to the conference, however, will have ample opportunity to see the patients on whom Dr. Friedmann based his original claims of success.

The Provisional Programme shows reports and discussions on the following subjects: Tuberculosis and Mankind, Surgical Treatment of Tuberculosis, Schools for Children Predisposed to Consumption and miscellaneous topics.

A large number of delegates from the United States and a few from Canada are expected. It is admitted that much good work in the fight against tuberculosis has been accomplished in North America. In Europe it would seem that the Scandinavian countries, especially Sweden, have accomplished the best results, although many think that Germany shows the highest degree of organization. From the reports of 348 cities with more than 15,000 population each, it appears that the death rate from tuberculosis was reduced from 22 per 10,000 in 1905 to 17 in 1911. Over the whole Kingdom of Prussia the rate for 1912 was 14.5. The reduction has been particularly marked in hospitals and homes for consumptives having dropped within 16 years from 31 to 12. In penitentiaries and jails the mortality from tuberculosis is now only one-sixteenth of what it was 15 years ago.

EAST END HOSPITAL, TORONTO

The citizens and physicians of the eastern section of Toronto, so far as we understand the matter at present, have given up the idea of purchasing the old General Hospital property. They believe, and rightly we think, that a new hospital should be built east of the Don River. It is expected that the City Council will provide a site. Many think that a suitable piece of land could be found on the Don Ravine, east of Broadview Avenue and south of Danforth Road. We are told the plans are to be made out for a hospital to cost approximately one half million dollars, but the main building and the administration building will be erected first at a cost of about \$150,000; the other buildings to be added when needed when the necessary funds have been secured.

TUBERCULOUS MENINGITIS

We are told in an interesting article which appeared in the *New York Medical Journal*, of August 7th, that there are few who realize what a large number of deaths are caused annually by tuberculous meningitis. In the city of New York it causes more deaths than typhoid fever. For instance, in 1909, 806 deaths were accredited to this disease, while there were 564 deaths from typhoid fever. Recovery from tuberculous meningitis in the past has been rather limited, but the outlook in the future may be more favorable.

Dr. Robt. L. Pitfield, of Philadelphia, reports one recovery in his own practice (*Journal of the American Medical Association*) and has collected from

various sources reports of 28 other recoveries from undoubted tuberculous meningitis, and also 8 other recoveries in which the diagnosis was less positive. Dr. Pitfield thinks that recovery takes place once in about two hundred cases, and in view of this fact he urges that steps should be taken to facilitate such a possibility. In the treatment he would include one or two injections of tuberculin, lumbar puncture and the free use of hexamethylenamine and morphine if respiration is not embarrassed by it.

THE SIZE OF THE WORLD

At the recent meeting of the "British Association for the Advancement of Science," Sept. 10-14, some of the members appeared to think that the world is becoming too small for the population of the future.

H. N. Dickson, Professor of Geography at University College, Edinburgh, President of the Royal Meteorological Society, said the day of striking geographical explorations passed with the finding of the earth's two poles; the geographer of the future will have as his field the vital questions of supplying and distributing food and clothes to the world.

Foremost of these questions, Prof. Dickson believes, will be that of growing wheat enough for the world's bread. A host of problems of the future are marshalled behind this, among them being the questions of obtaining power and energy enough to operate the needed increase in factories, the fuel question, and distribution of population.

Within a century, he estimates, the resources of the world will be taxed to their full capacity. Civilized man is, or ought to be, beginning to realize,

that in reducing more and more of the surface of the earth to what he considers a habitable condition, he is making so much progress and making it so rapidly, that the problem of finding suitable accommodation for his increasing numbers must become urgent within a few generations. We are getting into the position of the merchant whose trade is constantly expanding and who foresees that his premises will shortly be too small for him. In our case removal to more commodious premises elsewhere seems impossible—we are not likely to find a means of migrating to another planet—so we are driven to consider means of rebuilding on the old site and so making the best of what we have that our business may not suffer.

He referred to the wheat acreage as not keeping pace with the increase in population.

As to the world's coal supply, the largest fields would last barely three centuries, even at the present rate of consumption. Of other fields, yet undiscovered, he could, of course, make no reckoning.

There must be in the near future, a great equalization in the distribution of population.

MUST TAKE STOCK.

What is wanted, is that we should seriously address ourselves to a stock-taking of our resources. We should vigorously proceed with the collection and discussion of geographical data of all kinds. Eventually we shall find that country-planning will become as important as town-planning. In the meantime geographical knowledge will yield scientific results of much significance about such matters as distribution of population and industries and the degree of adjustment to new conditions which occurs or is possible in different regions and amongst different peoples.

EDITORIAL NOTES

We have received and read with much pleasure the first number of *The British Journal of Surgery*, a new quarterly, devoted to the publication of the best surgical work of Great Britain. It seems strange that such a journal has not appeared before.

Sir Rickman Godlee, Bart., President of the Royal College of Surgeons, has written the introduction, in which he enumerates the reason for the appearance of the publication and asks for the support of the profession throughout the Empire in making the journal what it should be.

Certainly with such a strong editorial committee, and such an excellent first number, the way should be opened to making the journal authoritative and truly representative. There are articles by D'Arey Power, Albert Carless, Robert Jones, and others whose names are familiar to all.

John Wright and Sons, Bristol, are the publishers, while in Canada, The Macmillan Co. of Canada, Ltd., Toronto, are the representatives.

School for Health Officers, Conducted by Harvard University and the Massachusetts Institute of Technology

Beginning this fall Harvard University and the Massachusetts Institute of Technology are to maintain in co-operation a school for Public Health Officers. The facilities of both institutions are to be available to students in the school and the Certificate of Public Health (C. P. H.) is to be signed by both President Lowell and President Maclaurin.

The object of this school is to prepare young men for public health work, especially, to fit them to occupy administrative and executive positions such as health officers or members of boards of health, as well as secretaries, agents and inspectors of health organizations.

It is recognized that the requirements for public health service are broad and complicated, and that the country needs leaders in every community, fitted to guide and instruct the people on all questions relating to the public health. To this end, the instruction of the new school will be on the broadest lines. It will be given by lectures, laboratory work, and other forms of instruc-

tion offered by both institutions, and also by special instructors from national, state and local health agencies.

The requirements for admission are such that graduates of colleges, or technical and scientific schools, who have received adequate instruction in physics, chemistry, biology and French or German, may be admitted to the school. The medical degree is not in any way a pre-requisite for admission, although the Administrative Board strongly urges men who intend to specialize in public health work to take the degree of M.D. before they become members of the School for Health Officers.

The Administrative Board which will conduct the new school is composed of Professor William T. Sedgwick, of the Massachusetts Institute of Technology; Professor Milton J. Rosenau, of Harvard; and Professor George C. Whipple, of Harvard. Professor Rosenau, of Harvard, has the title of director, and the work of the school will be under his immediate supervision.

Treatment of Rhinophyma by Radium

Degrais (*Arch. d'électr. méd.*) describes some successful results obtained with radium in rhinophyma. This condition of irregular hypertrophy of the nose is characterized from the anatomo-pathological point of view by: (1) An inflammation in the sebaceous glands, with dilatation of the walls of the vessels, and (2) sclerosis of the derma, with the formation of lymphatic lacunæ covered with endothelial cells. Leloir and Vidal distinguish two varieties of rhinophyma, according to the predominance of one or other of these anatomo-pathological characteristics, the one a glandular variety, in which the glands are voluminous, and the other an elephantiac variety, in which dermic sclerosis with vascular dilatation predominates. Of the three cases cited by the author, two were of the former type, and the remaining one of the latter. In the glandular cases the abnormal secretion diminished little by little under the influence of radium, the size of the nose being similarly reduced, and in the other case also the congestive phenomena gradually disappeared, and the hypertrophied tissues sank down. The technique was as follows: Radium applied for 48 hours, divided into four nights of twelve hours each. The apparatus of 4 sq. cm. contained 1 eg. of pure radium sulphate with 3 eg. of barium sulphate, the radiation being filtered by traversing 2 mm. of lead. The applications were made on the sides of the nose by the Wickham's "cross-fire" method, four series of radiations being given at six weeks' intervals.—*B. M. J.*

Personals

Dr. Glen Campbell has been elected President of the British Columbia Medical Association.

Dr. Marcellus, of Ottawa, has been appointed Chief Medical Officer at Port Nelson, Hudson Bay.

Dr. Frederick Winnett expects to remove to his new residence, No. 2 Maple Avenue, Rosedale, in the early winter.

The Canadians who attended the great Congress in London, England, have returned, and all speak in the highest terms of the great medical gathering.

Dr. R. E. Wodehouse, of Fort William, went to Winnipeg on Sept. 15th, and after attending one day's session of the Canadian Conference on Charities and Correction, went on to Regina.

Dr. P. B. Macfarlane, who has been engaged in special study in Baltimore for the past two years, has commenced the practice of diseases of the eye, ear, nose and throat at 152 James Street South, Hamilton.

Dr. W. H. B. Aikins, after attending the International Medical Congress, spent some time on the Continent studying the advances made in Radiumtherapy. He returned home the end of September.

Dr. C. R. Dickson attended the meetings of the American Electro-Therapeutic Association in New York City, September 25th, and was re-elected a member of the Board of Trustees for the three year term.

Drs. C. J. Hastings and John Amyot, of Toronto; Dr. Macaully, Guelph; Dr. Clinton, of Belleville; Dr. George, of Haileybury; Dr. James Roberts, of Hamilton, attended the annual meeting of the Public Health Association at Colorado Springs, Sept. 9 to 12.

The Western Medical College is now the Medical Faculty of the Western University, London, Ont., with the following officers: Dean, Dr. H. A. MacCallum; Registrar, Dr. W. E. Wau; Executive Committee, Drs. MacCallum, Wau, Hadley Williams, H. Meek, F. P. Drake, and H. W. Hill.

Drs. Jno. W. S. McCullough, Adam H. Wright, Geo. D. Porter, Controller MacCarthy, and Mr. Rowland, Chairman of the Toronto Board of Health, left Toronto on Sept. 13th to attend the third annual meeting of the Canadian Public Health Association at Regina, Sask., September 18th to 20th. The Canadians who attended the Colorado meeting also went to Regina. Dr. Macaully is the President of the Canadian Association.

Obituary

NELSON MULLOY, M.D.

Dr. Nelson Mulloy died at his home in Preston, Ont., on June 28th, aged 72. He received his medical education in the old Rolph School of Medicine, and graduated M.D. from Victoria University in 1866.

J. R. WADDELL, M.D.

Dr. J. R. Waddell, of Chatham, died July 13, aged 28. He graduated from McGill University in 1907, and after practising two years in New Mexico was engaged in research work at the Montreal General Hospital for eighteen months.

A. B. CARSCALLEN, M.D.

Dr. A. B. Carscallen, of Enterprise, Ont., died July 23rd. He graduated M. D. from Victoria University in 1875.

A. T. WATT, M.D.

Dr. A. T. Watt, of Victoria, B.C., Superintendent of the William Head Quarantine Station, during an attack of melancholia, jumped from a third-storey window in St. John's Hospital and was accidentally killed, July 27. He was 53 years of age. He received his preliminary education in Hamilton, where he was born, and was a graduate in medicine of the University of Toronto.

Book Reviews

Diseases of the Stomach. Including Dietetic and Medicinal Treatment. By GEORGE ROE LOCKWOOD, M.D., Professor of Clinical Medicine in the Columbia University; Attending Physician to Bellevue Hospital, New York. Illustrated with 125 engravings and 15 plates. Lea & Febiger, Philadelphia. 1913.

This book is of interest, as it is based on the results of the author's personal observations, and is not simply "made over" from other authorities. Naturally, as is pointed out, many conclusions are quite different from what are ordinarily accepted. The author does not seek to force his own views on the reader, however, as other theories are fully dealt with and discussed.

In treatment, the indications for surgical interference, such a debatable subject, are fully discussed, and the points on which to determine the course of action clearly defined. The text is eminently practical and is bound to be of service either to practitioner or specialist.

The book is clearly written and well illustrated with diagrams, photographs and plates.

Therapeutics of Internal Diseases. Edited by FREDERICK FORCHHEIMER, M.D., Sc.D. (Harv.), Professor of Medicine, Medical Department, University of Cincinnati. Volume III. New York and London: D. Appleton & Company. 1913.

Volume III. of this exhaustive system of treatment deals with the therapeutics of the digestive, respiratory and circulatory systems, the blood and blood-forming organs, and some of the ductless glands. It is hardly necessary to say that, as in the preceding volumes, the articles are most complete and of great merit. While many of the collaborators in this volume are not so well known to us as were those in the preceding ones, still as Canadians we recognize with pleasure the names of Maude Abbott, McPhedran, Rudolf and C. F. Martin, who have respectively written on Diseases of the Blood, Diseases of the Pericardium, Diseases of the Bronchi, and the Anæmias, Leukæmias and Scurvy. Many of the articles have extensive bibliographies appended.

Studies on the Influence of Thermal Environment on the Circulation and the Body-Heat. By EDGAR R. LYTH, M.B., Durham, M.R.C.S., Eng. With fifteen charts. London: John Bale, Sons & Danielsson, Ltd., 83 Great Titchfield St., Oxford St. W. 1913.

Dr. Lyth has, in a small volume, made a record of a long series of interesting experiments. Those who are interested in physiological medicine will find the book very interesting and suggestive.

The School Dentists' Society, Affiliated to the Child-Study Society and the National League for Physical Education and Improvement. Its Objects and Aims. Second Edition. 1913. Published for the School Dentists' Society by W. Nichall & Son, Standard Printing Works, Watford, England.

This little book gives, in about 100 pages, full information of the Society, with reports from nearly all countries where dental inspection obtains.

A Course in Normal Histology. A Guide for Practical Instruction in Histology and Microscopic Anatomy. By RUDOLF KRAUSE, A.O., Professor of Anatomy at the University of Berlin. Translation from the German by PHILIP J. R. SCHMAHL, M.D., New York. With 30 illustrations in text and 208 colored pictures, arranged on 98 plates after the original drawings by the author. New York: Rebman Company, 1123 Broadway.

These two volumes add still another to the excellent English translation of well-known German texts issued by the Rebman Company. Volume I. is a small book dealing purely with Microscopy, and the methods of preparing histological specimens. The descriptions of the methods are most complete, and no detail is too insignificant to be pointed out. In Volume II. the study of histological appearances of different animal tissues are taken up in detail. The method employed is to depict the section by most beautiful plates, and then give a written description of it. The plates are most excellent and leave nothing to be desired.

The author takes the view that the student's course in histology should give him more time for the carrying out by himself of all the methods of preparation. While recognizing the impor-

tance of the subject, still we think the time could be spent much more profitably than in mastering technique which will scarcely ever be used in the future by the average student. However, there is no disputing the fact that Professor Krause has written a most excellent text-book, and one which we predict will be in favor both with teachers and students.

Disease of the Throat, Nose and Ear for Practitioners and Students. By W. G. PORTER, M.B., B.Sc., F.R.C.S., Ed., Surgeon to the Eye, Ear and Throat Infirmary, Edinburgh; Surgeon, Ear and Throat Department, Royal Hospital for Sick Children, Edinburgh; Aurist, the Edinburgh Royal Institution for the Education of the Deaf and Dumb. With 77 illustrations, 44 of which are in colors. Toronto: The Macmillan Company of Canada, Limited. 1912.

The author has succeeded in making his book a very serviceable one for practitioners and students. It will also be studied with a great deal of profit by specialists as well.

One of the most valuable features of the book is the attention given to diagnosis. This is impressed on the reader throughout the book, and adds greatly to its value as a handbook for the medical practitioner, to whom we can heartily recommend it. It is one of the best works for its size of any we have seen dealing with diseases of these special organs.

SELECTIONS

Salicylate of Iron in Erysipelas and other Affections

M. C. S. Lawrance, in the *Practitioner*, describes the use of a preparation made by adding to a solution of sodium salicylate and potassium bicarbonate in equal amounts the *British Pharmaceutical Codex* liquor ferri perchloridi. For adults the dose generally consists of $7\frac{1}{2}$ grains (0.48 gramme) of the salicylate and the bicarbonate, and $7\frac{1}{2}$ minims (0.46 c.c.) of the iron solution. The resulting violet-colored solution is quite palatable, though, of course, it may be sweetened if necessary. It does not depress or constipate and possesses a well-marked antipyretic and sometimes a diaphoretic action.

In erysipelas the author has found the preparation much more effective than any other remedy tried. The disease never lasts more than ten days, and in most instances is cured in three or four days. All pain is relieved. No deaths occurred among the cases in which it was used. With the patient in bed and on a liquid diet, the author applies warm compresses of oatmeal water to affected area, aseptically punctures and drains the blebs should these form, and administers the salicylate of iron preparation every three hours. The treatment should be commenced with a purgative, such as calomel. Where there is well-marked delirium, trional is used. When the symptoms abate the salicylate of iron is given at longer intervals and later discontinued. With these measures the temperature becomes, as a rule, normal in twenty-four hours, the disease has ceased to spread, and the patient feels better and is often hungry; solid food is not allowed, however, for the first three days. In cases of great severity the author often adds twice the usual amount of iron to the salicylate solution, thus producing a preparation which is stronger in its action on the disease.

The solution recommended is also remarkably effective in some cases of acute tonsillitis—probably those wholly or partly of streptococcal origin. If, after giving it for three days, there is no marked improvement, it is not worth while continuing with the preparation. Potassium chlorate may be combined with it.

In some cases of cellulitis the iron salicylate solution, used as an adjunct to the ordinary surgical procedures, appeared to do good.—*New York Medical Journal*.

Chiropractic—A Judge's Opinion

Chiropractic is a freak offshoot from osteopathy. Disease, say the chiropractors, is due to pressure on the spinal nerves; ergo it can be cured by "adjusting" the spinal column. It is the sheerest quackery, and those who profess to teach it make their appeal to the cupidity of the ignorant. Its practice is in no sense a profession but a trade—and a trade that is potent for great harm. It is carried on almost exclusively by those of no education, ignorant of anatomy, ignorant even of the fundamental sciences on which the treatment of disease depends. A chiropractor of Canton, Ohio, was recently fined \$200 and costs and sentenced to sixty days in the workhouse for practising medicine without a license. In imposing sentence, Judge Krichbaum, before whom the case was tried, said in part:

"There is, unfortunately, growing up in this country of ours a general defiance of the law. In the opinion of the court, you, and the school to which you belong, are in this class. This court does not take much stock in the claims you make that you were not practising medicine. It is not within the province nor the purpose of the court to criticize the class of school to which you belong, nor the efficiency of your treatment. . . . You claim to be a doctor of chiropractic; the technical meaning of the word 'doctor' is a person learned, well-taught, well-informed, and universally a doctor is recognized as being able to alleviate physical suffering. For a long time there has been running in the magazines an advertisement: 'Be a Doctor of Chiropractic, the new Drugless Healing Science of Spinal Adjustment; a common school education is all you need to begin; our simplified training does the rest.' Men who believe in education, who glory in our school system, in our colleges, are staggered at this audaciousness. Certainly to conform to the requirements in the practice of medicine in the State of Ohio could only make you more efficient, more capable for the practice of your profession.

. . . The logical results of permitting you to practise medicine without a certificate from the State Board would be to lower the standards of school teachers, of druggists, of physicians and every other class necessary to maintain an orderly regime of civilization and wholesome living—in short, to open the doors for all charlatans to prey on the suffering. There is a growing tendency to raise all intellectual standards. The execution of this law rigorously will be a step in this direction."

Canton is to be congratulated on having a jurist with as broad a grasp of fundamentals as that shown by Judge Krichbaum.—*J. A. M. A.*

Caffein and Cardiac Disease

Persistent interference with the rhythmical functioning of an organ will inevitably induce organic disintegration.

The habitual daily use of coffee and tea, both containing the alkaloid, **caffein**, a well-known cardiac stimulant, sooner or later **must** result in harm to the heart's functional and organic integrity.

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Miscellaneous.

Erythema Nodosum and Tuberculosis

Moro (E.). (*Münch. med. Wochenschr.*) Struck by the observation of Pollak that erythema nodosum is a tuberculous skin affection and that 48 children in the Vienna polielinie all reacted to tuberculin. Moro examined 30 cases of this disease and found that in four the reaction to tuberculin was negative. He considers that Pollak's statement is not correct. Subcutaneous injection of tuberculin produced in three cases examined no focal reaction. The author does not believe there is any connection between the two diseases.—*The Medical Chronicle*.

Delayed Abdominal Pains

At one time pains coming on several hours after food was regarded as almost pathogenic of a lesion of the pylorus. To this delayed pain Loeper contributes an interesting article (*Le Progrès Médical*, July 16th, 1913). It is found in a large number of abdominal disorders, more especially in disorders of the liver, pancreas, colon and kidneys. The pain of hepatic origin, whether from the gall-bladder or the ducts, occurs between the fourth and seventh hour after food. The pains are less regular in their time of appearance than those of pyloric origin. The pain is sometimes a little earlier, sometimes a little later, and it is rather lasting. There is not infrequently some temporary jaundice and a highly colored urine. Traumatic disease, tumor, or chronic inflammation gives rise to periodic delayed pain, which is sometimes accompanied by vomiting. In one case the pain was felt during several months three hours after food, and lasted an hour and a half. In another case it was set up by retention of the pancreatic secretion in Wirsung's duct and of bile in the cystic duct. Colic has been mistaken for pyloric ulcer because the pain came on regularly three hours after a meal. The passage of food into the duodenum is accompanied, in a great many persons, by a contraction of the ascending and transverse colon. This contraction is attributed either to a reflex action starting from the stomach, or to the internal secretion of a peristaltic hormone. Finally, renal colic, especially of the right side, is very frequently

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so timed as to be mistaken for pyloric pain. In calculus the kidneys become painful during the process of digestion, especially at the end of digestion. A case is quoted where the pain occurred three to five hours after food. The actual site of the pain is of little help in diagnosis; pylorus, bladder, pancreas, colon are too near one another to get much help here. The article concludes with the chief points in the differential diagnosis from ulcer of the pylorus.—*The Universal Medical Record*.

Autumnal Ailments

The Autumn months constitute the season during which the average practising physician is called upon to treat the following conditions: 1. Typhoid Fever, which is, more often than not, contracted at some unhygienic summer resort. The patient may return home during the first week or so, with headache, malaise, etc., or the premonitory or primary symptoms may appear after reaching home. 2. Malarial infection, in certain sections, which is more than usually rife in the Spring and Fall seasons. 3. The after results of the gastro-intestinal disorders of infants and young children, due to improper feeding, etc., during the heated term. In almost every instance, when the acute symptoms have subsided, a condition of anæmia and general devitalization is the final result that constitutes the essential indication for treatment. In convalescence from all forms of illness resulting in general debility, Pepto-Mangan (Gude) is the one ideal tonic and reconstructive. It not only revitalizes the blood, but also tones up every physiologic function. It stimulates the appetite, improves the absorptive capacity, increases energy and ambition and restores the blood to its normal condition. It is, thus, a general tonic and reconstituent of marked and certain value.

Is Psoriasis the Symptom of Some General Infection?

Since Grocco started it in 1892, there have been many attempts to show that psoriasis is the symptom of a tuberculous diathesis. Menzer, for instance, regards it as a latent tuberculous affection with a mixed infection of staphylo or streptococci. Schoenfeld has put this thesis to the experimental proof (*Deutsche med. Wochenschrift*, No. 30, 1913) in twenty-three cases. The general condition of the lungs was carefully examined and then submitted to the tuberculin test. The test began



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with 1/10 to 1/2 mg., and was gradually increased to 10 mg. and more. One girl of twelve received up to 50 mg. without any reaction and must be regarded as non-tuberculous. Three other cases had no general reaction with doses of 15 to 20 mg. If there is any tuberculosis here it must be so latent as to be unable to give a rise to a skin affection. The other nineteen cases had a general reaction in doses of 1/2 to 10 mg., and in some there was clinical evidence of slight tuberculosis; there is, however, nothing remarkable in the occurrence of two such common diseases in one patient; in no other disease is one likely to find more than 14 to 18 per cent. of adults free from tubercle. In no case was there any local reaction in the sense of a sharply circumscribed reddening 3—5 mm. wide. With temperatures of 39.0 C. and upwards the psoriasis efflorescence was redder than usual. The injections produced no therapeutic effect, although they were given during three or four months in some cases. In seventy-one cases submitted to Wassermann reaction there were in three cases a positive reaction, in two it was doubtful, in all the others (sixty-six) it was negative, nor were there any clinical signs of syphilis. He concludes that no evidence has been brought forward that psoriasis is a manifestation of tuberculosis or syphilis. His own investigations were against this view.—*The Universal Medical Record.*

The Growth of North Toronto

Perhaps one of the surest proofs of the growth of the up-town commercial district of Toronto, and in anticipation of the building of the large new Union Station by the Canadian Northern and the Canadian Pacific Railways at the top of Yonge Street, is the opening of an up-to-date steamship ticket office, by The Hoseason Tourist Agency, at 746 Yonge Street, one block south of Bloor.

Mr. J. B. Hoseason, the proprietor, has had over fifteen years experience in Atlantic and European travel, and as such an Office has been a long felt want of the community of North Toronto, it should be a welcome addition to the district. Not only can steamship tickets be purchased, and accommodation arranged for travel to Europe, but on all principal Lines, whether across the Atlantic, to Jamaica, Bermuda, the Panama, or Australia at this Tourist Office.

Other useful innovations which have been arranged for at this office, consistent to travel, are, an agency for the Transfer

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the passing of two body fluids, *in opposite directions, at one and the same time* through an animal membrane, for *nutritional* and *reparative* purposes.

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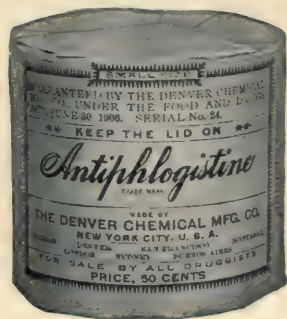


therapy, and is employed with *safety, surety* and *success* in all congested, inflammatory conditions—deep-seated or superficial.

*Note:—*The above is graphically described on page 18, of our booklet, "The Uses and Practical Application of Antiphlogistine"—a copy of which will be freely sent to any physician or nurse on application.

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Perhaps the most welcome feature to the youth of the district is that seats can be booked for the Royal Alexandra Theatre, and the Arena, during its activities in the winter months.

A visit to this Tourist Office is well worth while, as space has been allotted to a reception room, neatly fitted out, for ladies, and quite a picture gallery of the best known steamers on the Atlantic.

The old Janes Building, at the corner of King and Yonge Streets has been torn down to make way for a new sky scraper, and Dr. Hamill, Medical Broker, has been forced to find new offices, which he has secured in the Bank of Toronto Building, 205 Yonge St., opposite Eaton's. New telephone number Main 3375. Those interested should make a note of the change.

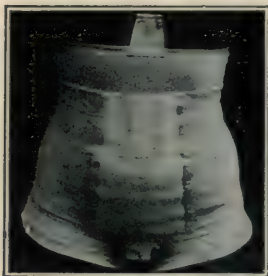
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Tuberculosis in Children

Schelble (*Deut. med. Wochen.*) discusses the prevalence of tuberculosis in children and the difficulty of diagnosing it when located in bones or lymph-nodes, and particularly when it takes the form of a subacute polyarthrititis without tonsillitis or endocarditis and rebellious to the salicylates. Incipient tuberculous peritonitis is hard to differentiate from chronic digestive disturbances in children. The swelling of lymph-glands in the neck may be secondary to ordinary inflammatory processes in the mouth, tonsils or back of the neck, and if the child happens to have chronic coryza the trouble is often mislabeled "scrof-



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ula." Tuberculous meningitis may occur in infants without any of the characteristic symptoms; the skin reaction is a valuable aid in the diagnosis, as also a greater reducing capacity on the part of the cerebrospinal fluid. If the infant has given previously a positive skin reaction and then it suddenly becomes negative, this is almost a certain sign of fatal tuberculous meningitis. If the tuberculin skin reaction is negative, unless the child has an acute exanthem, the negative reaction indicates either that the child is free from tuberculosis or has been infected too recently for antibodies to have developed, or the infection is so severe that a fatal outcome is imminent. A positive reaction indicates that the child has been infected and has produced antibodies, but not whether there is actually an active tuberculous process. In very young children tuberculous infection is generally synonymous with an active process, but in older children the positive reaction should be weighed with the other findings. No other test can be compared in diagnostic efficiency and harmlessness with the Pirquet skin technic. In regard to the presence of tubercle bacilli in the blood stream, he states that none of his twenty-nine guinea pigs developed tuberculosis after inoculation with the blood from tuberculous children, even from those with the severest bone or joint lesions. He declares that there is no evidence to date that tuberculin has really helped in the treatment of tuberculosis. Convincing proof would be afforded if it proved possible to cure with tuberculin the open tuberculosis of young children. With all other forms and conditions of tuberculosis there is always a possibility that the lesions might have healed spontaneously without the tuberculin. In tuberculin treatment of children the main point is to avoid the slightest clinically apparent general reaction. This is not an easy matter, as different children react differently to the tuberculin, and consequently he advises the general practitioner to leave tuberculin alone in the treatment of children. To get the child out of the sick room, out of the haunts of the germs of influenza and measles, streptococci and pneumococci, is a great step gained, fresh air and time will complete the cure. The various forms of external tuberculosis heal best when given a year or two of time. It is amazing, he remarks, how extensive tuberculous bone processes can heal spontaneously in time. Open sores benefit by exposure to the direct sunlight, but it has little effect on deep-seated lesions. He expatiates on the importance of protecting the child during its first four years of life against bacilli-scatterers; if the bacilli-scatterers cannot be removed from the home the child must be taken away. In conclusion he

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emphasizes that the prophylaxis against phthisis should be centred on the child at puberty, rather than in early childhood. The main point is to cultivate a well-rounded chest and keep the child from debilitating factors, especially too much staying indoors and too little sleep.—*J. A. M. A.*

A New Remedy for Ringworm

Dr. Agnes Savill speaks very highly of a lotion, recommended some time ago by Dr. Winkelried Williams, containing seven grains of picric acid and half an ounce of camphor in half an ounce of rectified spirit, as a depilatory and germicide for ringworm. The hair is cut short round the diseased patch in the usual way, and the lotion painted on with a camel-hair brush morning and evening. As the lotion evaporates a yellow powder accumulates on the head. This powder is to be washed away at least twice a week, and it is also important that the hair should be cut short by clipping or shaving two or three times a week. When all these details are carefully observed the hair becomes loosened in about three weeks and can be easily epilated. The results are described as exceedingly satisfactory.—*The Hospital.*

Treatment of Paroxysmal Haemoglobinuria with Cholesterin

J. Pringsheim (*Med. Klin.*) has had encouraging results in a case of paroxysmal hæmoglobinuria treated with cholesterin. Though the pathology of this condition has lately been partially elucidated, its treatment is still empirical and varied. The frequent existence of syphilis in patients suffering from paroxysmal hæmoglobinuria has led to the latter's treatment with mercury; but the results have been disappointing, and the author's patient had been thus treated in vain. He therefore resorted to cholesterin, which inhibits hæmolysis *in vitro*, and which has been successfully prescribed in cases of severe anæmia and black-water fever in which the rapid dissolution of red cells occurs. Though other writers have given the drug by the mouth, the author administered it by intramuscular injection so as to ensure the absorption of a large quantity of the 10 per cent. emulsion. He found that in rabbits 5 c.cm. of this emulsion had completely vanished from the site of injection after eight days. To test the action of the drug on the patient he prescribed cold foot baths, and observed their effect on the hæmoglobinuria. In the course

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of eleven days, five injections each of 5 c.cm. of the emulsion were given. On the eleventh day the cold foot bath, which had formerly induced severe hæmoglobinuria lasting for eight to ten hours, now induced only slight hæmoglobinuria lasting for less than three hours. A sixth injection was followed neither by hæmoglobinæmia nor hæmoglobinuria, but the rigor and rise of temperature formerly provoked by the cold stimulus still persisted. The cholesterin had therefore modified but not completely checked this reaction. For reasons not stated, the author was unable to pursue his investigations on the patient. He concludes that the rapid diminution of the sense of chilliness during the treatment, and its recurrence when the injections were abandoned, show that they were beneficial. During the treatment no change in the hæmolytic action of the serum and no heightened vitality of the erythrocytes were demonstrable.—*B. M. J.*

The Newer Treatments of Syphilis—Some Possible Sociological Effects

Whether it came with Columbus' crews from the West, or was brought by Crusaders from the East, syphilis, in Europe, has decimated armies and brought to naught the schemes of princes. It has caused and is causing more physical and mental inefficiency than all the plagues that have smitten the races of the earth. Those only whose daily work is amongst the out-patients of great hospitals or the in-patients of our asylums and infirmaries have a glimmering of the amount of the misery that results from the late manifestations of this appalling disease.

For years past, as those who will study the official reports and the articles in the *Journal of the Royal Army Medical Corps* may learn, the Corps has done a vast amount of work, the end of which has been to systematise and make perfect a treatment for syphilis. It was but to be expected, therefore, that when salvarsan was discovered it was eagerly seized upon by the army doctors as a likely instrument to the end in view. A series of experiments was commenced to ascertain the power and the possibilities of the new drug. These researches are not yet ended, but a method of treatment has been evolved to a point so far beyond the experimental stages that the medical authorities have considered the time ripe for issue to the officers of the Royal Army Medical Corps of a pamphlet headed "Instructions Regarding the Methods to be Adopted for the

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Diagnosis and Treatment of Cases of Syphilis." The few unpretentious sheets of the pamphlet set forth, in the clearest terms, a method of treatment which combines the intra-muscular injection of mercury with the intravenous injection of salvarsan, and which evidently appears to the men working in the venereal hospital at Rochester Row to be that which has in it the most promise of real success and permanent cure. It is not proposed here to enter into the details set forth in the instructions, but to point out the vista that is opened up by the fact that such instructions have been issued by authority.

Perusal of the measures to be taken to ascertain if a cure has resulted, for instance, leaves the impression that there is a well-founded hope that permanent cure may result from a course of treatment which extends over a period of less than three months. If this should prove to be a usual result, the effect on the health of the community will be marked beyond present conception—that vast agglomeration of gummata, chronic ulcers, and other tertiary syphilitic manifestations that form so large a proportion of the clinical material collected in the out-patient departments of our hospitals will disappear.

Lunatic asylums will seldom have to care for sufferers from general paralysis, and will lose much, perhaps most, of their supply of non-hereditary cases of insanity. With a shortened period of contagiousness there will be less opportunity for the infected to infect in their turn. This must result in a decrease in the number of fresh cases. That, again, will be one factor the more lessening the incidence of the disease. The number of the infected will be diminished to a much smaller percentage of the population. With this reduction, one of the objections to making syphilis a notifiable disease will disappear, or be overruled from lack of numbers to support it; the objection born of the fear of a considerable proportion of the community that notification will result in publicity being given to its secret sins. Then measures will be taken to isolate the infected till they cease to be contagious, and, in time, syphilis of native origin may be as rare in the British Isles as leprosy. None can calculate in advance the gain in communal health and national efficiency that such a result would bring.—*The Hospital*.

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Original Communications

PRESIDENT'S ADDRESS—DELIVERED BEFORE THE ACADEMY OF MEDICINE, TORONTO

MEDICAL EDUCATION

BY HERBERT J. HAMILTON, M.D.

In the first place I wish to thank the Fellows of the Academy of Medicine for electing me to fill this important position for the present year. Whilst fully appreciating the honor they have done me I appreciate still more my own limitations, and recognise that the distinction carries with it certain responsibilities, not the least of which is that of selecting a subject for this address which will be of interest to the Academy as a whole. From this point of view I can think of nothing more appropriate than the question of medical education, which has recently given rise to a considerable amount of discussion throughout the medical world. Its efficiency is a matter of paramount and general importance, in that it tends to raise the standard of those entering the profession.

The Carnegie Committee on Medical Education has carefully investigated the condition of medical education, and has now published two exhaustive reports, one dealing with America, and the other with Great Britain and the Continent of Europe. An analysis of the results of this investigation indicates that, while the systems of medical education in vogue in the different countries vary within wide limits, one being superior to the others sometimes from one and sometimes from another point of view, no single system possesses such uniform advantages as to justify its being regarded as absolutely perfect. The publication of these reports has led to a consensus of opinion that higher standards are desirable, more especially

in America, both in preliminary attainments and in the qualifications for practice, and has already resulted in a considerable reduction in the number of medical schools in the United States, due to the closing of some which were badly conducted and imperfectly equipped.¹

It is obviously only reasonable to assume that the great advances which have been made in medical science during the last few decades, together with the increased facilities for education in other subjects, indicate the desirability of a corresponding progress in regard to medical education, and of the requirement of higher standards of qualification from those entering the profession.

Preliminary Education and Requirements.—In the recent Carnegie report on "Medical Education in Europe" stress is laid upon the point that the education of a physician is "primarily an educational, and not a medical question," and that the methods and results of professional teaching are dependent upon the general educational system of the country itself. It is unanimously agreed that on the whole professional training in Germany is on a high level, and the Committee considers that the excellence of the education received in the German secondary (or collegiate) school is mainly responsible for this. There can be no question that the most satisfactory results as regards medical education are obtained only when it is based upon a good system of general education.

The requirements for admission to medical schools and colleges vary in different countries. In England a minimum preliminary standard, comprising four elementary subjects, three of them being languages, has been indirectly established. It is decidedly low. No medical school holds an examination in general subjects, but the General Medical Council and other qualifying bodies publish lists of examinations which they are willing to accept. These include the local and matriculation examinations of the Universities of Oxford and Cambridge. In France it is compulsory that the student shall have obtained the *Baccalauréat* on leaving the *Lycée* or secondary school, and in addition have devoted a year to the study of the elementary sciences of physics, chemistry and biology.

As a result of the publication of the Carnegie report and the recommendations of the various American medical societies,² the standard of admission has recently been raised in a large proportion of the medical schools in the United States,

¹ Colwell: *Journ. Amer. Med. Assoc.*, 1912, lviii, 654.

² Colwell: *loc. cit.*

and some of the State examining boards have now adopted higher preliminary requirements. These include a four-year course at a high school, and in addition a year's work in physics, chemistry and biology. As regards Toronto, it has been suggested by the President of the University that senior matriculation shall be required of students who wish to enter the Faculty of Medicine of the University of Toronto, and this recommendation has been endorsed by the Medical Faculty. I understand that passing junior matriculation in Arts still admits the candidate to the Faculty of Medicine.

The Medical Curriculum.—The great advances in medicine and surgery, and in the various sciences which stand in close relationship to them, have resulted in increased demands upon the time of the student, and in constant additions to the medical curriculum, which has now become so overburdened that revision is imperative. When one considers that it is absolutely essential that the student should not neglect the fundamental sciences of anatomy, physiology, pathology and bacteriology, and that in addition he is expected to acquire some knowledge of medicine, surgery, pharmacology, physics, chemistry, biology, hygiene and preventive medicine, gynæcology, obstetrics, pediatrics, forensic medicine, and the various systems of treatment, it is obvious that his task is insurmountable, and we are confronted with the problem of finding some means of relieving the congestion. The most practical way of solving this problem which has been hitherto suggested is that adopted in France, and more recently in the United States, namely, that the student is required to have devoted at least a year to the study of physics, chemistry and biology before applying for admission to the medical school. In France the teaching of these subjects is undertaken by physicists and chemists in the University Faculty of Science, and not in the Faculty of Medicine by doctors acquainted with these sciences, but not specialists in them. The Carnegie Committee recommends the adoption of this plan, as the relegation of the teaching of physics, chemistry and biology to the elementary or secondary school would economise the time of the student, and thus facilitate more thorough training in the subjects included in the more strict definition of medicine.

I wish to emphasise the fact that amongst the English-speaking races the study of modern languages does not at present occupy as prominent a place as is advisable, in view of the many important contributions to medical literature which are constantly appearing in them.

Specialization.—Specialization, in the modern acceptation of the term, may be said to date from the latter half of the nineteenth century, and is a necessary consequence of the great progress which has recently been made in medicine and surgery, and in the various sciences which are now regarded as subsidiary or auxiliary to them. Coincident with the developments in internal medicine, surgery and pathology there has been a corresponding improvement in the methods of diagnosis and systems of treatment, which renders it increasingly difficult—not to say impossible—to keep in touch with the enormous mass of literature which is constantly being published in connection with the various subjects which are now included under the general definition of medicine. This has resulted in the dividing up of both internal medicine and surgery into a series of single specialties, the number of which is steadily increasing. In addition the modern methods of microscopical, chemical and physical diagnosis have now become extremely elaborate, require special study and technique, and already possess an extensive literature. The various methods of treatment also represent distinct specialties, which are continually being added to and subdivided.

It will thus be seen that the great advances in medical knowledge have contributed to and necessitated the development of specialization, but while it is manifestly impossible for any one man to be intimately acquainted with the details of all the various specialties, it is advisable that specialization should be based upon a general training in the principles of general medicine. Fürst³ emphasizes the fact that if specialization is carried too far there is a risk of forgetting the unity of medicine as a whole, and that in the consideration of individual factors alone the inter-relationship of the various organs and systems of the human body may sometimes be lost sight of.

Laboratory Work.—The laboratory department has for some considerable time occupied a most important position in the equipment of the modern medical school, and the investigations carried out in it have been of the greatest assistance in solving many of the problems which confront the physician and surgeon. The employment of laboratory methods of research has rendered it possible to make a practically certain diagnosis in many diseases, and in many instances they also furnish definite indications for the treatment of these diseases. It, therefore, follows that an efficiently equipped pathological laboratory is now generally recognized as an essential part of the organiza-

³ Fürst, M.: "Der Arzt," Leipzig, 1909, p. 52.

tion of a hospital, and that a practical course in laboratory work is regarded as one of the most valuable of the recent additions to the medical curriculum. The original researches in chemistry and bacteriology, associated with experimental work, which are now looked upon as essentials in the routine work of every hospital, have played and are playing a very prominent rôle in the great developments in preventive medicine, which is progressively becoming one of the most important branches of medical science.

Clinical Training.—Whilst fully recognizing the fact that the advances in methods of diagnosis and treatment render it imperative that the medical curriculum should include a certain amount of instruction in laboratory work, and that the student should at least acquire a sufficient degree of knowledge in this connection to enable him to understand the various reports and analyses which may from time to time be submitted to him in the course of his professional practice, and to interpret them intelligently in relation to the diagnosis, prognosis and treatment of the cases under consideration, at the same time I am of opinion that it is inadvisable to give undue prominence to the purely scientific side of medical training. In his presidential address at the meeting of the Canadian Medical Association at London, Ontario, Dr. McCallum⁴ expressed the opinion that in the report of the Carnegie Committee too much stress is laid on the importance of laboratory instruction in medical education. He thinks that there is a tendency for it to assume undue prominence, and to occupy so much time that comparatively little is left for the clinical work and personal contact with patients, which is so necessary as a preparation for independent practice, and I may say that I am quite in accordance with this view.

It is unfortunate that such a sharp line of demarcation is commonly drawn between theoretical and practical work. The scientific investigation of many of the problems connected with disease can most effectively be carried out in well-equipped laboratories in close relationship to hospital clinics, but the work done in the laboratory should not be looked upon as an entity, entirely distinct and separate from the clinical work, but should rather be regarded as complementary to it. The ultimate object of both departments is or should be the same, namely, the caring for the patient in the best possible manner, and the carrying out of investigations with a view to ascertaining the most effectual methods of preventing and curing disease.

⁴ McCallum, H. A.: Canada Med. Assoc. Journ., July 1913, p. 547.

The instruction given in the laboratory, except in cases in which the student intends to devote himself entirely to scientific investigation, is merely part of the preparation for the clinical work to be subsequently undertaken in the wards of the hospital, the results of the scientific researches carried out in the laboratory affording indications for more efficient methods of dealing with the practical problems encountered in the latter department.

I should here like to point out that in my opinion it is highly desirable that there should be mutual co-operation between the clinician and the laboratory worker, and that the clinical methods of diagnosis should not be abandoned altogether in favor of laboratory methods. Too many lives have been sacrificed by delaying an operation until a definite diagnosis has been made by means of elaborate and prolonged laboratory investigations. In the first place all the ordinary methods of clinical diagnosis, such as palpation, percussion, etc., should be exhausted, laboratory methods being employed subsequently in order to confirm what has been discovered by clinical ones. If the results of clinical examination indicate that an operation is advisable, make your diagnosis and act upon it, and do not let your patient die from septic peritonitis or some such cause while you are waiting for a report from the laboratory.

In this connection it may be pointed out that the function of the hospital clinic consists not only in caring for the sick and in carrying out scientific investigations, but also in training future practitioners of medicine, and it cannot be too strongly emphasized that the most valuable part of this training from a practical point of view is that which can be obtained only by direct contact with the patient. In the laboratory the student learns his work by actually doing it himself, not by merely reading about it or even by seeing demonstrations, and this method of teaching is equally applicable to clinical work. I am also strongly of opinion that the work done during the period devoted to clinical study should not be limited to the study of patients as belonging to a class, but should include that of individual cases, in accordance with the rule which prevails in Great Britain. The student is required to carry out the observation of the patient from all points of view, to note the symptoms present, make the various examinations necessary for diagnosis, sift the information thus obtained in the light of the history, watch the progress and development of the individual case, formulate his own conclusions, and suggest what-

ever procedure his experience indicates, all being done under the supervision of an experienced physician or surgeon. The practical value of such training, even if only a comparatively small number of cases come under the observation of the student, is immeasurably superior to that obtained from the carrying out of a large number of physical examinations or laboratory examinations, whilst the care of the patient in other respects is left to others. I think it highly desirable that in a clinical service in medicine or surgery the students should be encouraged to take individual cases and work them out upon a scientific basis. This should include the clinical observation of the case throughout, and the performance of the various investigations required, together with a study of the pathology.

It is highly desirable that every student who comes up for his final examination should be required to go through practical training in a good hospital for a certain length of time before receiving a licence to practise on his own account, and the competition amongst graduates for internships shows that they fully appreciate the value of such experience. In the Carnegie report it is stated that the conditions as regards clinical training are more favorable in Great Britain than anywhere else, the system of medical education being based upon the opinion that if it is to attain a maximum degree of efficiency it is essential that the student should come freely into contact with patients, and thus become acquainted with the actual manifestations of disease. If this practical experience is not gained in the hospital under competent supervision it has to be acquired subsequently in private practice without supervision, when mistakes may have disastrous and even fatal results.

I believe that from the point of view of the student there is at the present time a considerable amount of dissatisfaction and lack of confidence in this connection, and many of them fully appreciate the fact that although they have devoted five years to the study of medicine they have not at any time during this period been in sufficiently intimate relationship with the clinical work of the hospital as to fit them for undertaking private practice. The system outlined above teaches the student to look upon the patient he is examining as *his* patient, and to feel that to a certain extent he himself is responsible for making the diagnosis, for watching the progress of the case, and for prescribing appropriate treatment. He thus gradually acquires confidence, and with it that faculty of inspiring con-

fidence in the patient, which is so essential to success in private practice.

It has been suggested by some that the clinical teaching in our hospitals should be done by professors who devote their whole time to clinical teaching, and undertake no private practice whatever, no doubt occupying a chair in the University, and receiving adequate remuneration. Their work is to consist of teaching, setting examinations, and determining the qualifications for practice. In my opinion such an arrangement as this would be by no means an ideal one. Whilst it is, of course, essential that the clinician should be thoroughly acquainted with theoretical medicine and hospital practice, it is at the same time highly desirable that his experience should not have brought him only into contact with hospital patients, but that he should also have had ample opportunities of coming into close contact with private patients, and of thus acquiring the qualities which make for success in that line of work. It would be as easy to drive a square peg into a round hole as to find a man who has never himself personally had to deal with patients of this class, who is capable of imparting to students the tact and intuition which are so essential in dealing with them.

Post-Graduate Instruction.—Post-graduate teaching, in some form or other, and to a limited extent has long been practised in Europe, more especially in Germany. Qualified practitioners of medicine, particularly those practising in remote country districts, are now realizing more and more the importance of keeping in touch with the progress of modern medical science, and efforts are everywhere being made to systematise post-graduate instruction, and render it more general.

The most efficient organization for this form of teaching exists in Germany, and is known as the Central Committee for Post-Graduate Medical Education. In addition to organizing courses of instruction at certain central points, it also arranges gratuitous local courses for those practitioners who are unable to leave their homes for any length of time. Another central organization is the Kaiserin Friedrich Haus at Berlin.⁵ Vacation courses are also held at the universities, and in addition any qualified individual who wishes to do so can obtain permission to see the work done at the various hospitals and laboratories.

In France no special arrangements have been made for post-graduate teaching, but visitors are welcomed at the clinics and

⁵ Carnegie Committee: "Medical Education in Europe."

laboratories. As regards England, an association has been formed in London, which issues tickets, admitting to all clinics, clinical lectures, operations and autopsies at eight general and six special hospitals. Post-graduate courses are given at the National Hospital for the Paralysed and Epileptic, Queen Square, the Polyclinic, St. Bartholomew's Hospital, the West London Hospital, etc., and also at the Schools of Tropical Medicine at both London and Liverpool.

Arnold^{*} has recently published a paper dealing with the post-graduate medical school at Harvard, which forms a department of the University. He is of opinion that this connection with the University is an ideal arrangement, and that it is desirable that the post-graduate school and the medical school proper should constitute one and the same educational institution, with the same equipment and the same teachers.

In regard to the standard of admission to a post-graduate school it should be borne in mind that the primary object of such an establishment is to afford an opportunity to qualified practitioners of increasing their knowledge of medicine, and that the more inadequate their previous medical education has been the more do they need such an opportunity. At the same time, whilst it is not desirable to have minimum requirements for admission, it is advisable to have such requirements for the individual courses which are held, the authorities deciding which course any particular student is qualified to take.

Arnold suggests the possibility of the post-graduate schools ultimately conferring an advanced degree, above the present M.D., but this would, of course, entail more definite rules and regulations as regards requirements. The present system of granting certificates is in some respects more or less unsatisfactory, as in many cases the possession of a certificate means nothing more than that the student has paid the fees for a certain course.

Post-graduate instruction represents an important factor in medical education, in that it renders it possible to raise the standard of the physicians and surgeons who are already in practice, and thus contributes very materially to the well-being of the community in general.

I should like to revert for a few moments to the consideration of laboratory work. In this country there is at present no regular and adequate remuneration for scientific research, and it is becoming an important question as to whether or not it should be subsidised by the State. I wish very emphatically

^{*} Arnold, H. D.: *Boston Med. and Surg. Journ.*, 1913, pp. 168, 265.

to express the opinion that there is a very urgent necessity for the establishment and endowment of laboratories, financially supported by the Government, in which any graduate in medicine can avail himself of the opportunities thus afforded. It seems to me a very unsatisfactory state of things that funds for the furtherance of scientific research should be paid to men who undertake this important work only as a sort of stepping-stone to private practice, and have not the slightest intention of making it their ultimate aim and object. It is highly desirable that scientific research, upon which we have to depend chiefly for further progress in medicine, should be adequately endowed and supported by the State, which should provide suitable equipment and sufficient remuneration for the teachers, so as to render it worth their while to devote their lives to the work. In return for the money thus contributed by the State, the people, through medical practitioners, could be supplied with laboratory reports, analyses, etc. The laboratory would thus become a Government department, similar to the existing public health department.

Although, as I have indicated above, I think there is much to be said in favor of a nationalized system of laboratory work, I wish most strongly to emphasize the fact that I would not for one moment suggest that the *practice of medicine* should be placed upon a similar basis, and thus made nothing more nor less than a Government department. The establishment of such a department has even been suggested, with a system of rewards and promotions, similar to that which obtains in Germany, or in the British Army and Navy. It is obvious that, human nature being what it is, such a state of things would offer the strongest inducements to commercialism, which, in any form whatever, is diametrically opposed to the ethics and best traditions of our profession.

Behold us! the members of what has always been considered to be one of the most dignified and honorable professions, parading the highways and byways of this country, our chests expanding with pride, as they groan beneath the weight of the numerous medals with which our gaudy tunics are adorned, the insignia of tinpot decorations, doubtless secured partially through merit, partially through what can only be described as the most carefully planned advertising, and partially through the wire-pulling and intrigue of wily politicians, who, chameleon-like, have acquired the invaluable faculty of adapting themselves, and of changing their color with that of the

Government in power for the time being. Are we willing that the social standing of our profession should be thus degraded?

In this connection there is also something to be said from the point of view of the Canadian ratepayer, who prides himself upon paying for what he gets, and for no more. Is it likely that he would be willing to consent to legislation which would involve the raising of a large amount of money by the Government for the maintenance of insurances and benefits, and which would, therefore, also involve a corresponding increase in the rates, while he is deprived of some of the privileges he now enjoys? Would he be willing to place himself under such a parental Government, which would rob him of these privileges, and thus in some ways render him a mere chattel? Imagine his being allowed the privilege of selecting a veterinary to attend his domestic animals, while at the same time he is not permitted to choose the doctor who shall attend his family and himself. I have no hesitation in saying that I am absolutely certain that this country would not tolerate such a state of things for one moment.

In this short summary of the present position of medical education the time at my disposal has only allowed of a brief reference to a few of the more important points in a very wide and far-reaching subject, but I have endeavored above all to emphasize the desirability of giving every student an opportunity to devote himself, during the final period of his medical studies, to clinical work generally and the observation of patients individually, from which alone he can acquire that practical knowledge of his profession which is so essential to his success in after life.

Before concluding this part of my address I should like to say a few words upon the significance of personality. Whilst it is, of course, absolutely essential that the physician should be thoroughly equipped for the duties of his profession, both from a theoretical and practical point of view, it is at the same time highly desirable that his training should not be simply and solely a scientific one. In a monograph recently published, Bickel⁷ gives his conception of the ideal physician. He says that medical knowledge and technical facility alone do not suffice to make a good physician, but that with these should be associated a harmonious character, knowledge and love of human nature, strength of will, loyalty, and sincerity both in regard to himself and others.

⁷ Bickel: "Wie studiert Man Medizin?" 1906.

The student should be taught to look upon the patients coming under his observation as individuals, and not simply as members of a class suffering from a particular disease. He should study their individual idiosyncrasies, and cultivate that knowledge of human nature and tactful kindliness which will enable them to undergo, with the least discomfort possible, under the circumstances, ordeals which must of necessity be extremely unpleasant to them. There is no profession in which greater strength of character and more strict conscientiousness are required, and the physician needs in a pre-eminent degree that elusive quality which has been described as tact. It follows that a physician should not be simply a scientific man, but one with sensitive intuitions and a keen interest in humanity, and Fürst sums up the character of the ideal physician as follows:—"Only a good man can be a good physician."

An address delivered before an audience of this character would scarcely be complete without some reference to what has certainly been the most important event in the medical world during the past year, namely, the Seventeenth International Congress of Medicine in London, at which many of us were present. The large attendance of nearly eight thousand people, which included many scientists of world-wide distinction, coming from all parts of the world, is an indication of the interest taken in the Congress from an international point of view.

At a meeting of the Canadian section on the closing day of the Congress, Dr. J. T. Fotheringham moved a resolution of thanks and congratulation to the president, secretary and members of the Organizing Committee on the great success with which their efforts had been attended. This resolution was seconded by Dr. J. M. Elder, of Montreal. At the same meeting a resolution was moved by Dr. James Third, of Kingston, and seconded by Dr. Reeve, of Toronto, conveying the thanks of the Canadian section to Dr. W. H. B. Aikins. These gentlemen referred to the great services rendered by Dr. Aikins, who for the last eight years has acted as secretary of the Canadian National Committee, and during that time had been indefatigable in his exertions to secure for Canada a proper place in these international gatherings. In this connection I should like also to refer to Dr. Reeve, who was present at the last International Congress in London, held in 1881, as was also Dr. Aikins, and has ever since taken the greatest interest in the meetings of this important organization.

We all greatly appreciated the significance of the idea so

gracefully expressed by Prince Arthur of Connaught, in his address of welcome to the members of the Congress, namely, that not England alone, but the British Empire as a whole, was giving this Congress, the representatives of the various overseas Dominions sharing the position of hosts to the other members of the Congress. I cannot sufficiently express my appreciation of the cordiality of our reception, and of the excellent arrangements which were made for the comfort and entertainment of ourselves and the ladies accompanying us, both in regard to the official arrangements and the social programme.

A very interesting and important function, especially from the point of view of the Canadian contingent, was the reception given by our representative in England, Lord Stratheona, at the Botanical Gardens. It was the most largely attended function throughout the whole week of the Congress, invitations not being restricted to members of the Congress but also given to other Canadians who happened to be visiting London at the time.

It is a significant fact in the medical history of Canada that we now have a permanent Organizing Committee for the Eighteenth International Medical Congress, to be held in 1917. Of this Committee Dr. W. H. B. Aikins is chairman, and Dr. H. B. Anderson secretary.

In conclusion I should like to make a few suggestions as to the work of the Academy during the coming year. The Academy of Medicine was established with the object of promoting harmony and co-operation amongst the members of the profession in Toronto, and also to contribute to the diffusion of knowledge in regard to the work which is being done in this and other countries.

In regard to the various meetings it shall be our aim to provide programmes which will be of interest to the largest number of Fellows. The meetings of the special sections, such as pathology, pediatrics, and so on, will naturally be of the greatest use to those belonging to those sections, but I should very much like to see at least a partial return to the old order of things, in which greater interest, from a general point of view, was shown in pathology and the exhibition of clinical cases. I think it highly desirable that when cases are presented in the various sections in medicine and surgery, both the pathological and clinical reports should be included. At the same time the special pathological section of the Academy should, of course, still be maintained, and I would strongly urge the im-

portance of having as much work done in this section as possible.

Finally, I should like to say that I assume the responsibilities of the presidency in the fullest confidence that I shall have the support and sympathy of every Fellow of the Academy and of every member of the Council, without which we cannot secure that degree of success and advancement which it is our privilege to attain.

The Merry Heart

The beneficial effect of keeping up the spirits of a patient who is wont to become depressed is well known. In fact, "to exhilarate the heart," says Burton, "has been the practice of every age and country as the best means of preserving life." Regarded as a psychological state, laughter has been thought to be merely the expression of the overflow of nervous energy, but this shows itself in many other ways than in visible mirth. According to Dr. W. McDougall, of Oxford, who read a thoughtful paper upon the subject, laughter is Nature's protection against the depressing effect upon the system of our sympathetic tendencies. It may seem very ill-timed, but most of us manifest a desire to laugh when we see a person fall down, for instance. Our kindlier feelings, however, soon prevail and, controlling our risorial muscles as best we can, we hurry to the spot to render assistance. Probably, if we did not give vent to our first impulse, the "useless minor sympathetic pains," referred to by Dr. McDougall, would become too much for us, and the length of our faces would daily increase. Medical men ought, therefore, to be the cheeriest of all people and the most readily moved to laughter. But it is because of the changed direction of mental outlook induced by cheerfulness and mirth which interact powerfully even upon physical conditions that a "merry heart doeth good like medicine." The old saying of Marsilius Ficinus—"for without mirth physie is of no force"—may be heartily commended to the notice of all medical practitioners as well as psychologists.—*Medical Press and Circular*.

Selected Articles.

ON THE USE OF PITUITARY EXTRACT IN OBSTETRICS *

F. C. HARRISON, B.A., M.B.

Assistant in Pharmacology, University of Toronto.

Although the first use of pituitary in obstetrical practice was made in England, but few papers dealing with its action have been published in English, while in Europe it has been so extensively used that a study of the large number of papers and cases now published enables one to formulate, with considerable precision, rules for its employment. This is especially true after one has given it, with success and failure, in one's own experience. This forms the justification for this paper.

In 1895, Oliver and Schaefer, in their series of experiments with organ extracts, followed up their papers on the striking effects produced by the injection of extracts of the adrenal by showing that extracts of the pituitary also produced a rise in blood-pressure. In 1898, Howell showed that it was the posterior lobe which possessed this property. This was confirmed by Schaefer and Vincent, and in 1901 Schaefer and Magnus showed that the extract of the infundibular portion increased very markedly the flow of urine. At this point the matter rested until 1906, when Dale, in the course of some observations on the action of ergot, noted that the extract of pituitary brought about a marked contraction. This observation, however, was entirely lost sight of until Blair Bell and Hicks, led by some experiments which they had on hand, obtained from Dale some pituitary extract and produced with it marked contractions of the uterus in pregnant rabbits.

In consequence of the results obtained, Blair Bell was led to use it in some obstetrical cases. He presented his observations before the Liverpool Medical Institution, November, 1909, and his paper was published in December. In it he refers to its use in two cases of post-partum hæmorrhage, and one case in which it was used in the expulsive stage of labor. In September, 1910, Aarons of Edinburgh read a paper at the International Congress in St. Petersburg, in which he reported success in its use in six cases of port-partum hæmorrhage.

* From the Pharmacological Laboratory of the University of Toronto.

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On June 25, 1909, Frankl-Hochwart and Fröhlich of Vienna reported on some experiments which they had made with pituitary extract. They were led to join forces in the study of the action of pituitary on the vegetative nervous system, as both of them had previous experience with the pituitary gland under pathological conditions, and from what was known of the pharmacological action of the extract they were led to infer that it would produce uterine contractions. In this respect their hopes were answered, and they found that pregnant rabbits showed a very marked increase in uterine movement after the administration of pituitary. The effect on blood-pressure was by no means marked, although it was found to be considerable when injected into dogs. They also observed, as they had expected, very marked effects on the urinary bladder and were able to show that it not only stimulated, but increased the irritability of both the nerves to the bladder and to the uterus.

In conclusion, they suggested that it should be used in obstetrics, and it was not long before the advice was acted on. In January, 1910, Foges and Hofstatter tried it in some cases to arrest post-partum bleeding. They showed that it had little effect on blood-pressure, but quite promptly brought about uterine contractions. They had several failures, three at least, in which no effect whatever was produced.

Early in 1911 Hofbauer published the first series of cases in which it was used to increase labor pains. In his twelve cases the effects were always exceedingly striking, the movements coming on or increasing in force within a few minutes. He saw in no case any indication of tetanus uteri, but in several cases regular storms of contractions, bringing on a very rapid delivery. The publication of this exceedingly optimistic paper has led to pituitary being very widely used, and at least seventy-five papers dealing with the use of pituitary in labor have been published. An examination of the literature has disclosed a total of at least 1,650 cases in which it has been administered. A complete list of references is appended. The author has avoided, as far as possible, counting any case twice. The latest paper and the highest number of cases by any author being taken to include those previously reported.

My attention was attracted to the advantages of pituitary extract in obstetrics from the results seen in animal experimentation in the pharmacological laboratory. In the course of researches which have been in progress in this laboratory, and for demonstrations for student classes, pituitary has been used a considerable number of times to increase uterine movements.

In none of the cases in which it was employed has a true tetanus uteri, i.e., a very marked rise in tone with comparatively slight superimposed movements, been seen. Hahl and Malinowsky have recorded the variations in intrauterine pressure with a bag, after the method of Westermarek, and in two cases reported by Hahl, there was some rise in tone, the movements being shorter and stronger, at shorter intervals and with increased intrauterine pressure; and Malinowsky shows a good tracing of a uterine tetanus. In other cases no increase in tone occurred, but only of movements. Such tetani are, however, not uncommon with ergot preparations, but apparently much less so with pituitary. Cases have, however, occurred. In one of the cases published by Rieck a tetanus evidently occurred, and is very well described by him. When it took place after the second injection, which was given six hours after the first injection, the patient stated that she felt the individual pains, but the examining hand could detect no contractions or relaxations.

Lieven also reports a case in which the uterine tetanus was so marked that the child's heart-rate fell steadily to 82, and there was a marked passage of meconium. Spaeth reports a similar case. He was, however, so unfortunate as to see the child die. Seitz and Roemer have each stated that they have also seen tetanus occur. Hamm, too, in one case which was brought to him after the child was dead and the patient had been in labor for a considerable period of time, injected pituitary, and regular movements set in. These, however, died away, and a second injection was given, which was followed in seven minutes by a tetanic constriction which lasted eight minutes, then regular movements for one or two hours, which gradually died away. A third injection produced another tetanus of eleven minutes' duration, then regular movements; and the fourth, tetanus of seventeen minutes, followed by regular movements, which led to delivery. He states that he has frequently seen the foetal heart-rate fall to 80; but in view of the rapidity of delivery in most cases, does not consider this dangerous. The above incident shows quite clearly, however, that the use of pituitary is not without some danger to the child, though danger to the mother seems very slight. In consequence, the foetal heart sounds should be, if it is at all possible, kept constantly under observation. This danger seems undoubtedly greatest when the drug is administered during the first stage.

A study of the literature has disclosed that the majority of observers, and especially those with the larger series of cases, have found that for the production of abortion, pituitary alone

is insufficient. We might quote in this connection Schiffmann, who, out of seven cases, had three complete failures. Hell, Fischer, Nagy, Hirsch, Voigt, Merkel, Sellheim and Trapl have all pronounced against its use for this purpose.

Nor has it been of any great service in initiating premature labor. Trapl, Schiffmann, Fischer, Nagy, Hirsch, Voigt, Foges and Hofstätter, Merkel and Sellheim may be quoted in support of this statement. Nevertheless, successful cases have been observed in which one or two injections sufficed; and in the production of both abortion and premature labor, it has proved in almost all cases a useful aid to other methods, such as dilatation by mechanical means.

Practically all observers are unanimous in declaring that it is of the greatest value in overcoming uterine weakness supervening after dilatation of the soft parts, and during the expulsive stage of labor. The effect, as a rule, is very prompt. The pains set in with great vigor in fifteen to twenty minutes or less, and are strong, rapidly leading to delivery; sometimes in a few minutes, and frequently within the hour. As mentioned above, pituitary has been used in at least 1,650 cases, but it is difficult to estimate in how many of these cases it was given during this phase of labor. Not more than a dozen failures during this stage are recorded. The total number of complete failures reported is less than fifty, and these failures are largely amongst those cases in which it was used for production of abortion or premature labor, without other means being employed, or post partum. Several observers have found that it produces movements that are so rhythmical and strong as to be of the greatest value in converting abnormal into normal positions. There is, of course, no general agreement as to what constitutes failure; and as details in all the longer series of cases are not given, it is impossible to express the results recorded in the literature in a more exact fashion. Hofbauer, in his last forty cases, reports no failures; Cahn, out of eighty-seven cases, three; Aubert, 15 per cent. of failures; Foges and Hofstätter, out of sixty-three cases, three failures. These figures seem very typical; but it must be noted that other observers, with as large a series or larger, say nothing of failure.

Its action in these cases is well illustrated by the following cases, selected from amongst those seen by me:

CASE 1.—Primipara, 23 years of age. Labor pains began about 3 a.m. When examined at 9 a.m. the cervix was soft and easily dilatable; but the pains were feeble, and during the course of the pain there did not appear to be any advance of the head,

which was in the first position. The patient was seen several times through the day; and the soft parts, including the vagina and perineum, became gradually softened; but still the pains were very feeble, did not advance the head and caused the patient no distress whatever. At 4.30 p.m. 1 c.c. of infundibular extract, prepared by Messrs. Burroughs, Wellcome and Co., was injected. Strong expulsive pains began in five minutes. The contractions were regular and continuous. The head descended quickly and the child was born at 4.45 p.m. The uterus was well contracted. The placenta separated and was expelled in five minutes. Without pituitary, one would undoubtedly have used forceps in this case, as the patient was becoming rather tired, and would apparently have gone on for hours without delivering herself.

CASE 2.—III-para, 25 years of age. This was the third pregnancy in three years, and she had not been feeling very strong during the latter weeks. Labor began at 9 p.m. The pains were only slight all night, but sufficient to dilate all the soft parts. They occurred every five minutes, but seemed to have no expulsive power. The patient did not appear to help herself very much, and as she was becoming tired, one had to consider interference. It was decided to try pituitary before forceps. One c.c. of the infundibular was injected at 7.20 a.m. In five minutes strong rhythmical contractions occurred, which caused a rapid expulsion of the child in less than ten minutes. The placenta was expelled in five minutes.

Pfeifer, Sterne, Zinsser, Jaeger, Mory and Hamm have seen failure to produce delivery, owing to failure of the soft part to dilate. Hamm, indeed, saw physiological stricture develop in four cases where it was used to produce premature labor.

In the two cases of failure seen by me, the difficulty appeared to be that the soft parts did not become dilatable. No ill effects were produced, but forceps had to be applied.

CASE 3.—Primipara, 23 years of age. Labor began at 9 a.m. There were feeble pains all day, which became more severe at 10 p.m. The head was in the first position. Dilatation was progressive and the head descended. Then the pains became feeble, and had little expelling power. One c.c. of infundibular extract (B., W. & Co.) was injected. Stronger pains came on within twenty minutes, but the perineum did not relax, nor did the patient seem to help herself. Finally the forceps were applied and delivery effected. The uterus was well contracted, and the placenta was expelled within ten minutes.

CASE 4.—Primipara, 28 years of age. There were feeble pains throughout the day, which became more regular about 11 p.m. When seen at 2.30 a.m. the pains were occurring at about five-minute intervals. The patient was very nervous and did not help herself very much. The cervix was well dilated, and the pains were not very strong. One c.c. of infundibular extract was injected. In about twenty minutes the pains, as judged by the patient's sensations, became more severe; but the contractions were not appreciably quickened, nor did they advance the head, which was in the first position and fairly low down, although not bulging the perineum. After waiting some time, and as the patient was becoming tired, forceps were applied and delivery effected at 6 a.m. The uterus contracted well, and the placenta was expelled in ten minutes.

In this case the injection of pituitary extract did not seem to increase at all the expulsive power of the uterus; but there appeared to be a distinct lack of voluntary efforts on the part of the patient.

Several observers warn their colleagues not to employ pituitary after delivery of the child and before that of the placenta. Rieck reports a case of retention of the placenta. Hirsch, Voigt, Foges and Hofstätter, Rieck, Merkel, Seitz, Kroemer, have all found it not so valuable post partum; and several of these express a preference for ergot. In view of the greater frequency with which the latter in laboratory experience produces tetanus uteri, this is easily understood. Sellheim reports that out of twelve cases in which he used it, eleven were failures.

Several observers state that they have found it of no value in uterine atony; e.g., Anderes; and this condition probably explains the cases of complete failure to reawaken pains when they have prematurely ceased, such as reported by Zinsser (five out of sixty-five cases), Hamm (one case in forty).

In addition to the action of pituitary on the uterus, its action in increasing the movements of the urinary bladder are important. Jaschke and Franz have employed it as a postoperative tonic for this purpose; and several of those who have used it in obstetrics have noted that the bladder was well emptied without the use of a catheter.

That in pituitary we have a drug which will increase the flow of milk, was shown by Mackenzie and confirmed by Ott and Scott. By Mackenzie's method this has been confirmed in Dr. Henderson's laboratory. A lactating cat was anæsthetized, the skin removed from over two mammae, their nipples cut off and the gland deeply incised. An injection of pituitary pro-

duced a prompt response. In all, some 5 c.c. of milk was secreted. After an interval of thirty minutes, a further injection produced an increased flow. The effect of an intravenous injection is evidently very marked, but brief. Whether single or even daily injections will lead to a permanent increase in milk production is not decided. The cases advanced in support of this view by Reynolds are not sufficiently numerous, nor were the observations recorded with sufficient care to be convincing.

CONCLUSIONS.

1. Pituitary is of great value in cases of weakness in uterine movements after the soft parts are well dilated. Failure in these cases is rare, probably less than 1 per cent. The later in labor, but before delivery, the more striking the effect. The danger to the child and mother is very slight.

2. As an addition to some mechanical method, e.g., the Champetier de Ribes' bag, it is of great value in bringing on premature labor or abortion. In the former case it may be sufficient in itself, but there is some risk of tetanus of the cervix, or of the uterus, especially when repeated injections are required.

3. For delivery of the placenta its use is accompanied by the danger of tetanus uteri and retention.

4. In post-partum hæmorrhage a considerable percentage of failures may be expected.

When a need for a uterine stimulant arises in cases conforming to the above indications, I believe that pituitary is of the greatest value, and will act as in cases 1 and 2, which are typical of others in my experience.

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Reports of Societies

THE INTERNATIONAL MEDICAL CONGRESS

MAN'S INVISIBLE FOES.

FIGHTING INFECTIOUS DISEASE.

The most numerously attended general session yet held took place in the Albert Hall, under the presidency of Sir Thomas Barlow, to hear an address on Pathology by Professor Paul Ehrlich.

Dr. Ehrlich first made some eulogistic references to the part England has played in the fight against infectious disease. To prevent the spread of, and to heal, infectious diseases was at all times, he said, the highest aim of medical aspirations. However, a systematic pursuit of this purpose had only been possible in recent times, as through the labors of all civilized nations we had got an insight into the nature of infections, the cause of diseases, and the means by which they are transmitted.

The step from the laboratory to practice, i.e., to the bedside, was an extraordinarily difficult and dangerous one, and could only be taken with the greatest care. Its difficulty and danger were due to the fact that in the case of men there existed idiosyncrasies, forms of super-sensitiveness, which did not occur in the case of animals.

For instance, with a large number of thoroughly healthy persons the use of harmless articles of food, such as strawberries, crabs, etc., brought about unpleasant skin eruptions, and almost half the known remedies could incite such phenomena of super-sensibility. It would not be a cause of surprise, therefore, that such phenomena might occur in a particularly serious form with the employment of therapeutic agencies which contained such powerful acting radicals as arsenic and mercury.

Discoveries in regard to the ways of spreading diseases on the part of the infecting agencies had been made good use of in the fight against epidemics and for prophylactic measures, and had brought about an improvement surpassing expectation. Further, the struggle against diseases which had already broken out had been able to derive advantages from these discoveries, the most wonderful example being the diphtheria serum.

Now that the liability to, and danger of, disease were to a great extent circumscribed, so far as epidemics and many other diseases were concerned, the efforts of chemio-therapeutics were directed as far as possible to fill up the gaps left in this ring, more especially to bring healing to diseases in which the natural powers of the organism were insufficient. And he believed that now, when definite and sure foundations had been laid for the scientific principles and the method of chemio-therapeutics, the way was visible before us; not always an easy, but yet a practicable way.

There were many valuable indications that in a series of diseases—smallpox, scarlatina, typhus exanthematicus, perhaps also yellow-fever, and, above all, infectious diseases caused by invisible germs—the prospects of success were brightening. But in contra-distinction to these super-parasites the ordinary or common bacterial diseases (diseases due to the streptococcus and the staphylococcus, coli, typhoid, and dysentery, but, above all, tuberculosis) would still require a hard struggle. Nevertheless, he looked forward with full confidence to this development also, and might, without being set down as an optimist, put forward the view that in the next five years we should have advances of the highest importance to record in this field of research.

X-RAYS AND CONSUMPTION.

In the Radiology Section, over which Sir James Mackenzie Davidson presides, Dr. Sydney H. Owen (London) read an important paper on "The value of X-rays in the early diagnosis of tuberculosis of the lungs from the standpoint of the physician."

He said that, the respiratory tract being, in the adult at any rate, one of the easier routes by which the tubercle bacillus gained access to the body, any investigation which conceivably might assist in the determination at the earliest possible moment of changes in the respiratory organs should demand their most careful consideration. Radiography of the lungs, in his opinion, opened up a wide field of investigation.

The subject was a very vexed one. Certain objections had to be met. There were at least two schools of thought. There were those who maintained that radiography could be of little assistance in the detection of tuberculosis of the lungs. This school maintained that similar appearances were found in bronchitis, broncho-pneumonia, silicosis, etc. It was stated, too, that the

frequency of the lesions excluded tuberculosis as a cause. Then there were those who believed that systematic radiography could be of considerable assistance in the early detection of tuberculosis.

From the standpoint of the physician it would appear to be extremely difficult to diagnose—he did not say to suspect—tuberculosis in its very early stages for at least two reasons—(1) the lesion in the lung being very small, the physical signs were, so to speak, “ultra-clinical”; and (2) the patient, being unconscious of ill-health, did not seek advice at this very early date.

This initial difficulty was increased where patients did not seek advice until some serious symptom of ill-health, e.g., hæmoptysis, obtruded itself upon their consciousness. In more favorable cases, where patients sought advice early, a systematic use of the rays in this early stage of slight symptoms with slight, doubtful signs would show enlarged caseous glands, and possibly, too, densities in the lungs. To those who believed caseous bronchial glands might be the first stage in the invasion of the lungs in patients who manifested ill-health for which no other adequate cause could be determined, such knowledge was of profound importance.

FRESH LIGHT ON THE CANCER PROBLEM.

PRESENCE OF RADIUM.

The two sections on chemical pathology and bacteriology and immunity held a joint morning session at the Royal College of Science, under the presidency of Dr. F. Gowland Hopkins, to discuss the subject of cancer.

Dr. E. F. Bashford, director of the Imperial Cancer Research Institution, opened the discussion with a discourse on the bearing of immunity reactions on the nature of cancer, his remarks being freely illustrated by lantern diagrams and photographs of experiments upon mice. Out of a great deal of work, he said, a very little had come. Renewed interest was being taken in the relationship between some forms of cancer and chronic irritation, and in the recurrence of cancer in various native races, it having been noted that the natives of some countries practised certain curious customs that altered the anatomical distribution of cancer. In India, for instance, where the wagon harness was attached to the right horn of cattle, it was always in the right horn and never in the left that cancer developed.

QUALIFIED IMMUNITY.

Turning next to the experiments, Dr. Bashford said the early experience gained from the grafting of cancer of the mouse had been amplified in the laboratories of the Imperial Cancer Research Fund by many experiments on other animals—dog, rabbit, guinea-pig, and rat—in all of which true tumors had been transplanted. Immunity signified nothing more than the exemption, under clearly defined circumstances, of one individual from the consequences of transplanting a tumor from another individual of the same species.

The employment of the term immunity with reference to cancer in the present state of our knowledge was really wrong, because the resistance which could be induced artificially to the continued growth of grafts did not create any exemption from the liability to the development of cancer. It was also certain that cancer was rarely, if ever, communicated naturally or spontaneously from one individual to another by transplantation, and that its great frequency could not be explained in that way. The use of the term "immunity" could only be justified by convenience.

There was general agreement that the normal tissues of tumors of one species of animal were incapable of progressive growth, or even of continued existence, in another species, and in conjunction with other studies this had a bearing upon the question of whether an immunity was induced analogous to that against infective disease by showing that when induced it did not depend on a virus common to cancer in whatever species of animal it occurred.

THE NATURE OF CANCER.

Although some tumor strains were relatively indifferent to age, no strain had been found which grew better in old than in young animals. Young animals were, as a rule, more susceptible than old. The rarity of cancer in the young was not due to constitutional resistance to growth, and its frequency in the old was not due to a constitutional change occurring with senescence, favorable to the growth of cancer in general. This conclusion had led to determining whether animals naturally suffering from the disease offered a more suitable soil for the growth of cancer in general. It was found that they did not do so. The growth of a tumor led to hindrance of the growth of the animal bearing it, so that very young animals might remain dwarfs as compared with others of the same age that had remained free from tumors.

A problem of great interest centred in the difference between the great susceptibility of grafts to active resistance, and the relative or absolute insusceptibility of established tumors. The contradiction was of primary importance in any discussion of the nature of cancer immunity. It had not yet been completely resolved. Some facts of great importance stood out as having possible bearings upon the nature of cancer. Tumors varied in all degrees in their power to induce resistance, and in their susceptibility to it, however induced.

The difficulty was that the loss of power to induce resistance on homologous inoculation was not combined with a loss of susceptibility to resistance. Loss of power to induce resistance, while having also local, had constitutional consequences. Insusceptibility to resistance would have similar consequences.

NEW FIELD OF STUDY.

The delicate reactions thus far revealed had admitted of a little penetration into what a few years ago was quite unexplored territory. At present their study appeared to show that the ætiology of cancer was complex, and compounded of both local and constitutional conditions. Although it was not yet possible to be sure of the interpretation of the few new facts and their relation to one another, any day might bring some other fresh fact or facts to light, permitting of a harmonious explanation. Further speculation must be avoided, for there is need for more investigation in the new field of experimental biology which the study of cancer had opened up.

Dr. Lazarus Barlow, of the Middlesex Hospital, referring to the work done at the hospital, said one of the great difficulties in regard to cancer and the chemical side of cancer lay in the fact that the disease was so mysterious in its inception and took so long to recognize, and was subject to so many degenerating circumstances, that one was never certain whether the changes found in the body of a person suffering from cancer were strictly due to the cancer or were accidental. For that reason, though he would not be unduly pessimistic, he believed the chemical side of the cancer question would first be satisfactorily dealt with when they were able to produce cancer artificially in animals at will. In the course of the discussion the kaleidoscope had been variously turned. He would give it yet another turn.

He had found in a considerable number of cases of cancer that the element of radium was itself present. Radium was a subject

of such extreme potency, a substance concerning which we knew little, yet we knew sufficient to tell us that it was possible, he might even say probable, that many of the processes of the body were affected by it. It had been possible in his laboratory to show a number of conditions which must profoundly alter the fluids of the body whenever radium was present. He had found in a variety of normal tissues a quantity of radium which was represented by 1. In the non-cancerous tissues of persons with cancer the proportion was represented by 23. In the metastases it was 55, and in the primary site 51.

EVIDENCE OF GALLSTONES.

Apart from the question of the actual discovery of the elements of radium in cancer, he had investigated the amounts of radium in gallstones. The co-existence of gallstones had been noted in cancer for many years, and it had been suggested that cancer and gallstones had some close relation. Every gallstone had been in a gall bladder, and if the chronic irritation of gallstone was likely to produce cancer, one would expect that cancer of the gall bladder would be frequent. But, as a matter of fact, it was rare, and was always associated with the presence of a gallstone.

He had, therefore, investigated the amount of radium in different varieties of gallstones. Again, if the gallstones were taken from non-cancerous cases, there was practically no radium at all, or it was just on the verge of detectability, and might be represented by 1. Taking the gallstones in-cancer generally, excluding cancer of the gall bladder, the amount of radium in the gallstones was represented by 5. The gallstones in carcinoma of the gall bladder were represented by 84.

He did not wish to push the question too far, but it was perfectly clear to his mind that in their future work with regard to cancer, whether they considered it from the point of view of chronic irritation or of chemical pathology, it was necessary to determine whether or not radium played a part in the problem. Further, it had been found in the laboratory that there was more potassium in cancerous than in non-cancerous patients. Thus he might fairly claim to have given the kaleidoscope a new turn. (Cheers.)

Dr. E. Fround (Vienna), Dr. Sophie Fuch von Wolfring (Paris), and Professor von Wasielewsky (Heidelberg) also joined in the discussion.

NAPOLEON'S DEATH.

Old controversies were revived and new theories advanced when the section devoted to the "History of Medicine" considered two papers dealing with the death of Napoleon Buonaparte. Dr. Guthrie read an interesting and detailed paper, in which he asked the question, "Did Napoleon suffer from hypopituitarism at the close of his lifetime?" This condition is one to which medical science has only recently turned its attention; it has relation to the pituitary gland in the brain, whose functions are not at present fully known.

Dr. Guthrie discussed the condition of Napoleon in the closing years of his life, and pointed out the gradual decay of his mental faculties; his increasing lassitude, fatigue, and prostration; the increase of corpulence and chilliness, and lowered bodily temperature (indicated by the exile's frequent recourse to hot baths in a temperate climate). These symptoms were not entirely explained by the disease from which he was supposed to have suffered, and pointed to the presence of hypopituitarism.

It was pitiful, said Dr. Guthrie, to trace the mental decadence of this mental giant. Napoleon became a bore, and in the last five years of his life degenerated into a pettish, querulous, and irritable old man. These things pointed to some trouble of a cerebral nature. The brain, he added, was never examined at the post-mortem, and this theory he advanced was one that could never be definitely determined.

Dr. Chaplin, in a paper on "The Fatal Illness of Napoleon," asked the members of the historical section to consider themselves in the position of a tribunal or commission, called together to consider the following questions:

1. What were the diseases from which Napoleon suffered during his detention on the Island of St. Helena?
2. What were the probable causes of those maladies?
3. How far did the post-mortem examination substantiate the clinical evidence of those diseases?

The medical evidence was to be found in books or reports furnished by eight medical men—O'Meara, Stokoe, Antomarchi, Arnott, Shortt, Henry, Rutledge, and Burton. The last four were present at the post-mortem only.

Up to the end of 1817 O'Meara, who was in attendance on Napoleon, attributed his illness largely to his invincible determination to live a life devoid of exercise, and calculated to break most of the ordinary rules of health.

Antommarchi arrived at St. Helena in September, 1819, and set himself to the task of attempting to break down his patient's repugnance to fresh air. This he succeeded in doing, and by the end of October was able to describe his patient as well.

After various relapses and attacks symptoms began to appear in September, 1820, which pointed unmistakably to a serious disease in the alimentary tract. By the end of March, 1821, the case was hopeless, but he lingered on, becoming steadily worse, until May 5, 1821, when he died at eleven minutes to six in the evening. The change in the symptoms in September, 1820, might be fairly attributed to the beginning of the cancer of the stomach which eventually caused his death.

But if there appeared to be little doubt that the ultimate cause of Napoleon's death was cancer, there are still the symptoms from which he suffered during life to be considered, some of which were not in accordance with those of gastric cancer. It had been suggested that inflammation of the liver (hepatitis) existed for three years and a half, and there was a direct conflict of evidence on the point as to whether the post-mortem examination disclosed any signs of hepatitis. Of the eight doctors present Antommarchi alone describes the liver as being affected.

Motives for stating certain facts were of no assistance, because both Antommarchi and the seven British doctors were biased, the former to support the climatic contentions of the Frenchmen, and the latter in support of the British authorities, with their negation of any climatic influences whatsoever.

Professor Arthur Keith had propounded the view that Napoleon's indisposition was due to an endemic form of disease dependent on particular climatic conditions in the Island of St. Helena.

RELIC OF NAPOLEON.

He rested his thesis, said Dr. Chaplin, on two main premises. The first premise was based on his contention that two specimens of small intestine exhibited in the Museum of the Royal College of Surgeons, and described, "Incipient fungus of the glands of the small intestine, sent by Barry O'Meara to Sir Astley Cooper," did, in fact, come from the body of the Emperor. On submitting these specimens to microscopic examination, Professor Keith found that the so-called incipient fungus was not cancer at all, but inflammatory in nature, and, indeed, what one would expect to find in a man who had been affected for a long period with chronic undulant fever.

His second premise was based on the contention that during the three and a half years that Napoleon was ill the symptoms exhibited corresponded in the main to those of undulant fever, a condition which would have produced the appearances found in the specimen of the small intestines in the Museum of the Royal College of Surgeons.

BERI-BERI AND RICE-EATING.

"Some results of measures taken against Beri-beri in British Malaya" formed the subject of a paper read before the Tropical Medicine Section by Mr. W. L. Braddon. Epidemiologically, he said, and speaking broadly, beri-beri amongst rice-eating natives was due to nothing more or less than the use of rice which had been deprived of most of its surface-layer, of cells containing aleurone—which had, in fact, become "deglutenized."

He then cited various instances where the disease had disappeared, or had been strikingly reduced, as the result of the substitution of whole for white rice. In thirteen principal hospitals of Malay, admitting some 3,500 cases of beri-beri annually, and having the worst mortality, the death-rate had been brought down from an average of over 30 per cent. to under 15 per cent., in other words a saving of at least 500 lives annually. In every hospital whole rice had now been adopted with in every case the same marked result.

Subsequently, by a large majority, the section adopted the following resolution:

1. In the opinion of the Tropical Diseases Section, beri-beri amongst natives whose staple food is rice is induced by the continued and too exclusive consumption of the grain in a highly-milled form, by which treatment the cortical and sub-cortical layer is completely removed.

2. The section urges upon all authorities responsible for the health of native communities the encouragement by every means in their power of the restriction of rice of this character.

3. In view of the proved non-infectiousness of beri-beri, this section suggests to all port and sanitary authorities the propriety of abolishing quarantine and other restrictive measures at present in operation.

INFANT MORTALITY.

"Infant Mortality in the First Four Weeks of Life" formed the topic for consideration at a joint sitting of three sections of the Congress, namely, Hygiene and Preventive Medicine, Ob-

stetrics and Gynæcology, and Diseases of Children. An audience large enough to fill the Jehangir Hall of the University of London testified to the interest taken in the subject.

Dr. Arthur Newsholme, in a brief introductory address from the chair, said that in the returns of the Local Government Board the question of mortality during the first month of life had been carefully studied from the statistical point of view. One outstanding result, so far as statistics were concerned, was that there was an enormous variation in the death-rate per 1,000 births in various parts of the country; this variation occurred in a very erratic manner, which could not be satisfactorily explained at present by variations in the industrial occupations of women or any similar factor. At one end of the scale they had towns with rates of 61, 57, and 55 per 1,000, and at the other end were places, also urban in character, where the rate was just about one-half of those already referred to.

Sir Francis Champneys, London, expressed the hope that these discussions would prove the beginning of better things in this country, for, unfortunately, they had not done much more in England than begin to consider the subject from the State point of view. They ought to try and make it fashionable for mothers to nurse their infants. (Cheers.) His experience was that all mothers who were in what they would call good society were not so bad as they were made out to be. He had known many mothers leading an active life in good society who nursed their children regularly. Sometimes it was the husbands who prevented their wives from nursing their children, from a desire to take them out into society; but if the wife were a wise woman she would go out with her husband and nurse her child as well.

A very common mistake made by nurses acting under the supervision of doctors was to begin feeding a child with milk from the time of its birth. He was convinced that many infant lives were lost through starting to feed the child with cow's milk as soon as it was born. Many nurses seemed afraid to give a child water to drink, assuming that when it cried it was sure to be hungry, whereas in reality it was, perhaps, suffering from a plethora of milk. They might as well give beefsteak to a man suffering from indigestion. In this country they were starting schools for mothers. That was a most important thing. He had no doubt that the State might spend money very economically in teaching its mothers how to nurse their children. Money spent to that end would be repaid fourfold.

TEETH AND CANCER.

In the stomatology section considerable interest was manifested in a paper read by Mr. Frank St. J. Steadman on "Oral Sepsis as a Predisposing Cause of Cancer of the Alimentary Canal and Some Associated Parts."

He said he believed that a septic condition of the mouth was one of the strongest predisposing causes of cancer. Cancer was preceded by chronic inflammation of a part, and the constant swallowing of pus must tend to produce inflammation, although it might be many years before a malignant growth began.

The stomach was permanently injured when this flow of septic pus continued for from fifteen to thirty years, and chronic gastritis remained even after the original cause was removed. It was an almost daily experience of physicians and surgeons that the removal of septic teeth would often cure chronic dyspepsia. Advanced periodontal disease was not so common in persons not suffering from cancer, and many patients suffering from cancer in the alimentary tract had had chronic gastritis for many years previous to the appearance of the disease.

MODERN REMEDIES FOR SLEEPLESSNESS.

TREATMENT OF PAIN.

Soporifics and drugs relieving pain by their action on the central nervous system were dealt with by Professor A. R. Cushney, London, in a paper which he read to the Therapeutic Section in the Imperial College of Science and Technology.

A little more than forty years ago, he said, the list of drugs for these conditions was but a short one. Since that time there had been a procession of soporifics across the therapeutic stage, each one enjoying a shorter or longer period of popularity, and the duration of their stay had seemed to depend in some cases not so much on their intrinsic merits as on the arts employed by interested advocates.

Referring to the properties of the ideal soporific, Professor Cushney said that the drug must not be repugnant by its taste or odor. Voices had been heard of late years that in this respect investigators had been only too successful in their search, that the modern hypnotic had become so agreeable that it had tended to enslave the patient to a habit worse than the alcoholic one, and that safety lay only in the use of the less agreeable members of the group and those which betrayed their presence. The argu-

ment might be sound in individual cases at present, but a more reasonable view seemed to demand a closer control of the sale of these remedies.

USE OF VERONAL.

As regarded veronal, cases of poisoning had occurred, but only from overwhelming doses, and these should not cause prejudice against its use in therapeutic quantities. Chloral and veronal had undergone a test extending over millions of cases, were reliable, easily taken, and were practically devoid of action outside the central nervous system. Professor Cushney placed them at the head of the list as proved. Paraldehyde suffered from its unpleasant taste and odor, and from its large dose, and it was not as certain in its action as the first two. On the other hand, it was much less likely to be taken habitually.

With the rise of the new specific soporifics, many of the old drugs used in sleeplessness had fallen into disuse. *Canabis indica* had been condemned as unreliable, though its purely soporific action deserved recognition, and it was probably safer than any in use at present. It seemed possible that, in combination with some more constant remedy, it might deserve some attention.

In the treatment of pain, progress had been slower than in that of sleeplessness. The chief advance in the last half-century had been in the substitution of morphine for opium, and no improvement had been made in the natural alkaloid as yet. The other alkaloids of opium had not been sufficiently investigated in this relation, and it was possible that one of these, or a combination of morphine with one of the other alkaloids (*narcophine*), might prove to have advantages. The treatment of the symptom pain was one of the most urgent necessities of practice.

CASES OF OVERWORK.

Dr. Robert Jones, Claybury, Essex, said that far too little was made of the spiritual part of education. At the asylum at Claybury he had had scores of patients who ought not to be there if they had had proper moral and mental training in early life. He had never seen a pure case of overwork in the asylum, but he had seen many cases of overwork coupled with anxiety, of anxious pupils, prompted by more anxious parents, and very anxious schoolmasters.

Although the period allowed for sleep in the public schools had been extended, there was still more required. For children under five years of age twelve hours should be given, and up to fifteen years of age the period should be at least ten hours.

Discussing causes of sleeplessness, Dr. Jones said that often decayed teeth were overlooked. Astigmatism of the sight and adenoids were further instanced as causes of sleeplessness. These matters should all be attended to. Dr. Jones commended Turkish baths as an admirable remedy. In cases of acute delirious mania, he frequently used alcohol. As a pain reliever, alcohol, he thought, had of late years been underestimated. It certainly relieved pain in doses far smaller than to cause intoxication. If one was afraid of prescribing it in the form of ordinary beverages, it could always be disguised as a medicine; it was absolutely incumbent on medical officers who dealt with early cases of insanity or mental breakdown to produce sleep at all costs.

Professor Bradbury, Cambridge, expressed the opinion that people slept longer than they imagined, and a great many people slept and did not know. The kind of sleep was an important matter. Some people would sleep soundly for three or four hours, and not want any more, not needing as much as others required.

The more he saw of the action of veronal the more he was pleased with it if it was given in proper doses. A good dose of whiskey and water would make a man sleep well, especially if he was an abstainer. That had not the disadvantage of paraldehyde.

Sir Lauder Brunton, Bart. (presiding), said that the oldest writer on pharmacology was Solomon, who, more than 2,000 years ago, recommended as an anæsthetic for both physical and mental pain the use of alcohol. The sentence Solomon wrote was: "The drunkard says, 'They have beaten me and I feel it not. I will seek it yet again.'" That was physical pain: the man did not feel the beating. For mental anæsthesia Solomon's direction was: "Give wine to him that is of a heavy heart, and strong drink to him that is ready to perish that he may drink and forget his misery." That was mental anæsthesia. So they might say that Solomon long ago was working very much on the lines of modern pharmacology.

USE OF ANÆSTHETICS.

Considerable interest was shown in the section devoted to anæsthesia, which met under the presidency of Dr. Dudley Buxton. Various methods of applying anæsthetics were discussed.

Professor Burkhardt (Berlin) introduced the subject of intravenous application. Patients suffering from heart trouble and troubles of the circulation were not suitable, he said, for the intravenous method. It was advantageous for operations on the

head and neck, and for those who had lost much blood. The intravenous method had the special advantage that the patient did not experience the unpleasant feeling at the beginning of the application, and regained consciousness more quickly without headache or sickness.

Dr. Z. Mannell, anæsthetist to St. Thomas's Hospital, read a paper on the same subject, with special reference to the use of hedonal in intracranial surgery. During 1912, he said, this method was used extensively at St. Thomas's Hospital for a great number of serious cases. The experience thus gained had led him to restrict its use to certain types of cases and to certain operations.

He did not recommend the use of hedonal for operations in connection with the air passage or in cases with high blood-pressure. It was useful, however, for operations about the neck, for one reason because the anæsthetist was removed from the site of operation; but its greatest value was in intracranial operations. He had now administered it in 85 of these operations, and had no hesitation in saying that it was by far the safest and most convenient anæsthetic for the purpose.

Dr. S. J. Meltzer, of the Rockefeller Institute, New York, described another method of inducing anæsthesia by intratracheal insufflation, which, he said, consisted of blowing air through a tube that had been introduced into the larynx and deep into the trachea. Prior to its entry into the trachea the tube of air might pass through a bottle containing ether. In that way ether vapor was carried to the lungs. This method had now been tried on human subjects in more than 1,500 operations.

DENTAL DISEASE.

THE BOLTING OF FOOD.

Dr. Wallace pointed out that defective teeth impaired the power of efficient mastication. Infected material from around the teeth was carried to more remote parts of the alimentary canal. Dental caries must be regarded as a sign of persistent dietetic error, and the bolting of food, due to insufficient mastication, was a fruitful source of dyspepsia in childhood. Typhoid and scarlet fever and other zymotic diseases had been shown to be more dangerous when the mouth was diseased.

In giving a few rules for the guidance of the public, Dr. Wallace said that it was as well to rivet attention on dental caries (decay), and further to direct special attention to young children.

Important rules for the prevention of decay in teeth and associated disease were as follows:

(1) During the first two and a half years of life all starchy or sugary food (except milk) should be given in a firm or fibrous form, so as to stimulate mastication and the flow of saliva, and thus promote the healthy growth of the jaws and the regular arrangement of the teeth. Bread, rusks, or any other farinaceous food should never be added to or soaked in milk. Bread with crust (and butter), toasted bread (and butter) should form a considerable part of the solid part of the meals habitually given to children of this age.

(2) After the age of two and a half years children should always have a considerable amount of the farinaceous food in a form which would stimulate a pleasurable amount of efficient mastication. Boiled fish, meat, and, later, bacon should form part of the diet.

(3) The meals should be arranged in such a way that if soft, starchy, or sugary food has been eaten, the mouth and teeth will be cleansed by food of a detergent nature taken immediately after. When sweets of any kind, e.g., milk puddings, jam rolls, cake, sweet biscuits, bread and jam are eaten, fresh fruits should be eaten afterwards.

(4) Three meals daily are to be preferred to any greater number. Sweets, chocolate, or biscuits, and milk should never be eaten between meals or before going to bed.

Foods stimulating thorough mastication and insalivation did not require the same amount of care with regard to sterilization as food which tended to stagnate about the teeth or other part of the alimentary canal. Milk was not only an expensive food, but it was both troublesome and expensive to sterilize. Again, fruit was no more expensive when raw than when cooked and mixed with sugar, and, in fact, all cooking meant expense. It was also a fallacious doctrine that sugar might be regarded as a cheap food and as a protein sparer.

"THREE APPLES A DAY."

In the course of the discussion, Dr. King, of New Zealand, emphasized the overwhelming importance of the subject. From personal observation he could confirm the importance of, and the great benefit derivable from three apples a day, one after each meal. He remembered one doctor at a big New Zealand hospital, when spoken to on the subject of dental disease, saying:

"There is no doubt that people who come here for treatment for appendicitis do have most shocking teeth."

Mr. J. F. Colyer remarked that the Government had passed a bill to prevent little boys smoking. If they had brought in a bill to shut up sweetstuff shops they would have done more good for the country. The question under review should be tackled from the point of view of public instruction. School clinics were absolutely a waste of money at present. By all means watch children's teeth, but also get the mothers there and instruct them. There should be a Minister of Public Health to deal with these matters.

Mr. Arthur T. Pitts said that to change the diet of a country was a tough proposition. But it was possible to teach mothers the importance of oral hygiene.

Mr. Lewin Payne said that what they must aim at was to restore functional activity, and get people to do what nature intended them to do. That could be done very largely by instruction.

WONDERS OF RADIUM.

ITS USE IN MALIGNANT DISEASE.

Radiology again drew a large and interested gathering of doctors and specialists at the School of Mines when Dr. Robert Abbé, of New York, read a paper on "The Use of Radium in Malignant Disease." He said that, while universal testimony was agreed that the vast majority of superficial, and some internal, cancers could be cured by radium, there were failures which needed explanation.

This explanation he had found in returning to the experimental study of plants grown after being exposed to radium at different distances, and for different periods. The lecturer produced some photographs of plant growth to show that the close application of radium destroyed life, but within the range of half an inch to an inch and a half the radium rays excited and stimulated growth, while beyond that radius the rays, which were so-called Gamma rays, were all successful in preventing growth. These were the only valuable ones in reducing malignant tumors. It had been proved by French scientists that heavy lead plate would shut out the harmful rays, and permit the useful Gamma rays to go through slowly and destroy malignant tumors. But by the new plan of "distance filtration" without lead plate the same, or better, results were obtained in a quarter of the time or less, the radium being held $1\frac{1}{2}$ inches away, which excluded the undesirable rays.

The lecturer gave illustrations of the wonders worked by radium, numerous cases of tumors on the vocal cords—destructive of singing and speaking—being cured by one strong application for thirty minutes. The tremors disappeared in eight weeks. Another remarkable illustration was that of a gentleman on whose head malignant tumors appeared. One application of radium by the new method of distance filtration caused the complete disappearance of the tumors in twelve days. Dr. Abbé also gave illustrations of bone tumors cured by burying radium in them, together with the restoration of the bone. Radium had, in fact, established its claim as a cure for the early stages of malignant disease in contrast to surgery, cautery, and caustics.

In conclusion, Dr. Abbé spoke enthusiastically of the great work of the British Radium Institute, and of the recent work of German and French pioneers.

SURGICAL TREATMENT.

“Can Radium Help Surgery in the Treatment of Malignant Tumors?” was the question propounded before the members of the surgery section by Dr. Louis Wickham and Dr. Paul Degrais (Paris). Their answer was in the affirmative.

Considered from its physical, clinical, and histological effects, radium could, indeed, enlarge the limits of surgical treatment, they said, and opened to it the possibility of a wider and more complete palliative and curative effect on malignant tumors. The operable tumors must be immediately cut out, but if the surgeon still feared a relapse radium could quite well be applied after the operation, so as to give more resistance to the results already obtained. When operation upon the tumor was difficult radium could be employed before, during, and after the operation—the application before making the operation much easier. When the tumor was quite inoperable radium could very often be utilized, surgery assisting by making the passages in which the tubes were to be introduced.

After having pointed out cases of cancer in various parts of the body, showing the quite possible and useful co-operation of radium and surgery, the authors admitted that radium had only a local and palliative effect. Still, in certain cases of cancer a state of apparent cure remained during several years in such conditions that one wondered if the elements concerned were not entirely and materially transformed.

Drs. Wickham and Degrais, in conclusion, emphasized the point that if radium could help surgery special conditions must

occur to render this aid possible. Among them was the absolute necessity for all parts of the tumor to be irradiated for the same lapse of time and in the most homogeneous way possible. The base and the periphery must be totally irradiated. Finally, and above all, the dose of radium must be sufficient, and must correspond with the greater or less resistance of the cells, according to the energy of the radium employed.

BACTERIAL INFECTIONS.

In a paper read before the section on bacteriology and immunity, Dr. N. F. Surveyor, Professor of Bacteriology, Grant Medical College, Bombay, gave an account of a new method for the treatment of bacterial infections, being a modification of vaccine treatment dealt with in a previous paper on vaccine therapy. Since that communication, two years ago, 526 cases, including cases of tuberculosis, had been treated by him on the lines indicated.

Treatment of diseases with bacterial vaccines, he said, had acquired a definite position in medicine in the course of the last seven years, and it was not necessary to bring any facts in support of it at this stage. Rather one must be cautious of falling into the opposite error of using vaccines for all diseases that human flesh was heir to. He had not yet heard of anyone recommending this treatment for a broken limb; but he had come across a case where a patient was at least under the impression that his ventral hernia (about the size of a cocoanut) would be cured if he underwent a course of vaccine treatment for ulceration of the skin of the sac.

One often came across cases where the causative organism of any particular lesion could not be grown on any of the known media, thus making the preparation of a vaccine impossible. In one such case stock staphylococci and streptococci vaccines were used at first without any benefit; so it was resolved to try a method which he had been considering for a long time as quite feasible for bacterial infections. This method was comparable with the vaccine lymph inoculation used for protection against smallpox.

The method as adopted was to take a measured amount of pus and to dilute it with measured amounts of normal saline, so as to get definite dilutions of the toxins present in the pus. The dilution was used for injections, and the result was that the patient stopped getting any more abscesses, and was free from the trou-

ble for the first time for many years. This method had been extended to other cases, from which definite organisms could be developed, and some very good results had been obtained.

EFFECTS OF INFLUENZA.

In the Psychiatry Section, under the presidency of Sir James Crichton-Browne, a discussion took place on "The Psychoses of Infection and Auto-Infection."

Sir George Savage gave his experiences of the effects of fever on patients in asylums, and pointed out that in some cases improvement followed febrile attacks, while in others the patient was worse. With regard to influenza, there could be no doubt that, whatever its immediate causes might be, it had a serious result on the nervous system. Dementia præcox and disorders of the character might even be started by influenza. Profound melancholia was sometimes found associated with constipation. But, while believing that a great deal of mental disorders were due to some form of micro-organisms, one would not go so far as to accept it as a universal cause.

Dr. Easterbrook thought that the fact that toxines sometimes appeared to act curatively and sometimes in aggravation of mental disorders indicated that they were not the only factor. Other important considerations were those of the patient's temperament and environment. Of any 100 persons, 90 per cent. reacted in the normal way, while 10 per cent. reacted abnormally owing to some peculiarity of the nervous system.

Professor Bianchi agreed that it was necessary to take into account the factors of predisposition. There were forms of mental affections which were manifested at different periods without any evidence of the intervention of any recurrent cause.

ONTARIO MEDICAL ASSOCIATION

Abstracts of minutes of the Annual Meeting of the Ontario Medical Association, held in London, June 26th, 1913.

The President, Dr. C. F. McGillivray, occupied the chair.

Communications were read by the Secretary, Dr. F. Arnold Clarkson, (1) from the Huron Medical Society, asking that steps be taken to federate all the county societies with the Provincial Association. On motion of Dr. Bingham, seconded by Dr. Mullin, the following committee were appointed to bring in

a report at the next meeting: President, Vice-President, Secretary and Drs. Moore, Wallace and Moorehouse (London). (2) From the National Sanitarium concerning the action of the Ontario Medical Association at its last meeting.

Secretary Ontario Medical Association, Toronto:

Dear Sir,—Your letter 28th May, forwarding copy of resolution of the Ontario Medical Association, has been duly received and considered by the Board of the National Sanitarium Association, and I am instructed to write as follows:

The board feels that the action taken by the Medical Association is altogether unusual, and the board does not believe that any incident or occurrence at the Toronto General Hospital, St. Michael's, the Isolation or any other hospital occupying a similar position, has heretofore received the attention of the Medical Association.

The subject of the resolution, if at all a proper one to be considered by the Medical Association, should, in the opinion of the board, have been impartially investigated before they undertook to pass judgment upon it.

Our board had no notice of the resolution proposed by Dr. McPhedran, and no proper opportunity to submit evidence.

Our board do not at present deem it necessary to go into details of the subject matter of the resolution, but may briefly refer to the following:

Dr. Caulfield took exception to the publication of an abstract from his Official Report of February 23rd, 1912, to the trustees and made that the principal ground for tendering his resignation, to take effect in six months' time.

In view of the character of his letter, and for other important reasons, it was decided by the board to terminate his engagement forthwith, and to pay him a sum equivalent to six months' salary.

The board, through its secretary, closed the laboratory and placed it in charge of the physician-in-chief.

So far as his work in the laboratory was concerned, the only request Dr. Caulfield made on leaving was that everything should be left undisturbed for four days. Not only was this done, but for a period of more than two weeks nothing was disturbed, the motor being allowed to run and the gas kept burning.

The physician-in-chief then considered it necessary for the safety of all the inmates of the hospital, that the growing tubercular material in the basement be sterilized. Through some misunderstanding which the board exceedingly regrets, tubes

containing cultures, in the upper laboratory, were similarly treated.

Our board feels, and your Association will appreciate that the loss of these cultures is a most serious matter for the Sanitarium Association.

The trustees paid Dr. Caulfield a sum equivalent to six months' salary, notwithstanding the fact that after a service of only some three years in their employ, he had previously been given leave of absence for six months, to pursue his studies in Europe, his full salary being paid during that period.

The trustees undertook the further burden of paying the salary of a substitute to carry on the work during Dr. Caulfield's absence.

The trustees have further shown their interest and sympathy in connection with laboratory work in a very practical way—\$1,500 a year having been contributed from amongst their number towards Dr. Caulfield's salary, so that it might not be a burden upon the institution.

The trustees believe that the real nature and value of the deliverance of the Medical Association will be better understood and appreciated when the facts are made clear, and especially when it becomes known that the member who proposed the resolution, which reflected unfairly on the National Sanitarium Association, afterwards accepted the chairmanship of the committee appointed to report upon his own resolution, and that he some six months ago had a serious difference with the board regarding his proposed appointment as consultant physician to the Muskoka Hospitals of the National Sanitarium Association.

I am, yours faithfully,

(Sgd.) R. DUNBAR,
Secretary-Treasurer.

P.S.—A copy of the above letter is being forwarded to the Secretary of the Association, and one to the Chairman of the Committee, who will doubtless bring it before the other members of the Committee, and before the Medical Association.

R.D.

Dr. Adam Wright gave notice of motion re separation of the Ontario Medical Association from the Canadian Medical Association. This, with the other notices of motion of the previous meeting, was laid over until next year.

The next meeting will be in Toronto, in May, 1914.

Editorials.

MEDICAL EDUCATION

With much pleasure and great satisfaction we publish in this issue the admirable address on "Medical Education" by Dr. H. J. Hamilton, the President of the Toronto Academy of Medicine.

Among all the excellent addresses which have been delivered on this important subject, we know of none that covers the ground more thoroughly than this. It is well worth a careful perusal by every teacher and practitioner of medicine in Canada.

In speaking of preliminary education and requirements, the author refers to the Carnegie reports on medical education. The requirements for matriculation in medicine in various parts of the world are briefly but well discussed. Perhaps one of the best suggestions offered is a four years' course in a high school or its equivalent, and in addition one year's work in physics, chemistry and biology.

In speaking of the medical curriculum he expresses the opinion, which we think is now generally accepted, that because of recent additions it has become so overburdened that revision is urgently required.

He tells us that specialization is now understood as a necessary consequence of the great progress which has recently been made in medicine and surgery, and the various sciences which are regarded as subsidiary to them. He thinks, however, that specialization should be based upon a general training in the principles of general medicine. He agrees with Fürst, who thinks that if specialization is car-

ried too far, there is the risk of forgetting the unity of medicine as a whole and that in the consideration of individual factors alone the inter-relationship of the various organs and systems of the human body may sometimes be lost sight of.

Dr. Hamilton is strongly in favor of the right kind of laboratory work. He considers that an efficiently equipped pathological laboratory is an essential part of a hospital. The original researches in chemistry and bacteriology have played and are playing a very important role in the great developments in preventive medicine, which is progressively becoming one of the most important branches of medical science.

He considers, however, that it is possible to give undue prominence to the purely scientific side of medical training. He agrees with Dr. H. A. McCallum, who, in his presidential address, read before the Canadian Medical Association at London, Ont., expresses the opinion that in the Carnegie report too much stress is laid on the importance of laboratory instruction in medical education. He thinks there is a tendency for it to assume undue prominence, and to occupy so much time that comparatively little is left for the clinical work and personal contact with patients, which is so necessary as a preparation for independent practice.

Dr. Hamilton does not believe that clinical teaching should be done by professors who are not engaged in private practice. As to his conception of the ideal physician, he agrees with Bickel, who says that medical knowledge and technical facility alone do not suffice to make a good physician; he thought that with these should be associated a harmonious character, knowledge and love of human nature, strength of

will, loyalty and sincerity both in regard to himself and others. The student should be taught to look upon the patients coming under his observation as individuals and not as members of a class suffering from a particular disease.

After some reference to post-graduate courses he spoke of the valuable work done at the International Medical Congress, and concluded his address with some remarks as to the character of the work to be done in the Academy during this coming year.

BACTERIAL FOOD POISONING

We find in the *British Medical Journal* an interesting report of the local Government Board by Dr. W. G. Savage on Bacterial Food Poisoning and Food Infection. He refers to many sudden outbreaks of illness due to pathogenic organisms in various kinds of foods. They are usually referred to as cases of ptomaine poisoning, but Dr. Newsholme points out in a preface note in the report that it is more correct to describe them as cases of bacterial food poisoning. Latham, in his text-book, refers to what he calls ptomaine poisoning or bacterial food poisoning. He says that in these cases the food has been contaminated by the special bacteria which are the causes of ptomaine poisoning. The food contains not only the pathogenic bacteria, but also a varying amount of toxins (so-called ptomaine), which have been produced by the growth of the bacteria. Examples of food causing ptomaine poisoning are meat, tinned meats, fish, shelled fish, tinned fish, milk, etc. Also preparations of the above articles, such as soups,

potted meats, meat pies, condensed milk, etc. Most of the cases of ptomaine poisoning are accompanied by attacks of acute enteritis from the bacterial infection.

From the standpoint of the general practitioner the important point is the fact that impure food frequently causes serious illness. There has been considerable confusion as to the ptomaines and leucomaines. They include many different substances, some of which are poisonous and some non-poisonous. They are all supposed to be due in some way or another to different forms of putrefaction. It is doubtful if any of them are produced directly by the pathogenic bacteria. We hope that the confusion which exists will not continue much longer. We should like to be told in simple terms just exactly what is meant by ptomaine poisoning.

SANITARY MATTERS IN TORONTO

The management of the Department of Public Health matters, by the Chief Officer of Health, Dr. Hastings, has received the general approval of all classes of citizens.

Some have wondered how the Mayor and Council were induced to be so liberal in regard to the increased cost of the department. It is perhaps not generally known that the women of Toronto have taken a very active interest in such matters, and have exerted their influence in a very intelligent way. When the council contemplated reducing the estimates of the Health Department last year, a petition was sent to the council from which we abstract the

following: "The Local Council of Women in Toronto, representing forty-three societies, containing in all about 7,000 members, and many other women outside of these societies, consider the activities of the Health Department very beneficial to the inhabitants of the city. The striking reduction in the death rate from typhoid, tuberculosis and other infectious diseases represent a great saving of health and life. We earnestly beg the Mayor and City Council not to place the interests of economy against the interests of life and health by curtailing the appropriation demanded by the Department of Health. If the sums appear large to-day by comparison it is merely because the sums spent by Toronto in former years were entirely inadequate for the protection of the life and health of its inhabitants and especially of the children; and it is *the mothers of the city who pay in flesh and blood* what the city fathers were saving in money."

After going into details as to the work accomplished, the petition closes as follows: "In consideration of the above facts and figures we the undersigned earnestly trust that the City Council will see their way to accepting uncurtailed estimates submitted by the Department of Health."

CANADIAN PUBLIC HEALTH ASSOCIATION

The success of this vigorous young association has been phenomenal and in almost every respect has exceeded the most sanguine hopes of its founders. As most of our readers know the first meeting of the association was held in Montreal in September, 1911. Among those present at that meeting were their

Royal Highnesses the Duke and Duchess of Connaught, the Premier of Canada, the Premier of Quebec, the Mayor of Montreal and many other distinguished persons. From a literary standpoint the meeting was very satisfactory, as the papers read and the discussions following were of a very high order.

The second annual meeting was held the following year in Toronto under the presidency of Dr. Chas. A. Hodgetts, of Ottawa. It was rather a pleasant surprise to all who attended that meeting to recognize the obvious fact that the Toronto meeting was quite as successful as that held in Montreal. We expressed the opinion in connection with that meeting that it would have been better to have had a Toronto man acting as the President. As it turned out we were wrong, as nothing could have been more satisfactory than the Presidency of Dr. Hodgetts.

In response to a very cordial invitation from one of the Great Western Provinces, Saskatchewan, the members decided to hold the meeting for 1913 in the City of Regina. Dr. Jno. W. S. McCullough, the Chief Officer of Health for Ontario was unanimously elected President. Again the question arose in the minds of some as to the expediency of electing as President some one residing in Regina. At the close of the meeting in Regina, however, everyone was satisfied with the presidency of Dr. McCullough.

Among the places mentioned for the meeting for 1914 were Edmonton, Vancouver, Victoria, Halifax, St. John, Ottawa, Toronto, and the Twin Cities, Fort William and Port Arthur. Controller McCarthy on behalf of the Mayor and Council of the city extended a cordial invitation to the association to come to Toronto in 1914. While the other officers residing in

Toronto endorsed Controller McCarthy's action they did not consider it advisable in the interests of the association that Toronto should be selected at this particular time. We are very glad that the Twin Cities were chosen, and the meeting for next year will probably be held early in September in the cities of Fort William and Port Arthur under the presidency of Dr. Seymour, of Regina.

According to the official programme there were two kinds of meetings.

On the first day the General Session opened at 10 a.m. and continued until about 1 p.m. The members then left the City Hall in street cars and went to the Parliament Buildings, where they were entertained at luncheon by the Government of Saskatchewan. Dr. W. A. Evans, of Chicago, delivered an address at the Parliament Buildings at 3 p.m. After this lecture the members were driven to various points of interest in automobiles furnished by the citizens of Regina.

On the evening of the first day the members were entertained at a banquet tendered by the Mayor and Council of the city. On the morning of the second day sectional meetings were held at Regina College from 9 a.m. to 12.30 p.m.

Section 1. Medical Officers of Health.

Section 2. Medical Inspection of Schools.

Section 3. Military Hygiene.

Section 4. Veterinary Hygiene and Food Inspection.

Section 5. Sanitary Inspectors.

Section 6. Engineers and Architects.

Section 7. Laboratory Workers.

Section 8. Social Workers.

The proceedings of these sectional meetings, especially in that of Medical Inspection of Schools and that of the Social Workers, were exceedingly interesting, and the attendance was generally larger than the officers of the association expected.

The presidential address was delivered at the General Session on the afternoon of the second day by Dr. J. W. S. McCullough. In addition six other papers were read. During the evening of the second day there was a large conversazione in the Parliament Buildings, at which the members, their friends and many citizens of Regina and from other parts of the Province were entertained by the Government. We understand there were about 1,200 present. One of the features of the evening was an address by Miss Mary E. Macdowell, of Chicago.

At the last general session the following resolutions were proposed:

1. Moved by Dr. W. A. Thomas, seconded by Dr. W. E. Struthers,

That whereas a movement for the establishment of supervised playgrounds is widespread, and whereas the results of this movement upon the development of child life have been demonstrated to be of national importance, and

Whereas the difficulty has been the securing of trained supervisors for the work in the Dominion,

Therefore, be it resolved that each Provincial Government be memorialized to take steps to provide for the training of such supervisors in the normal schools and universities.

Moved by Dr. D. D. Revell, seconded by Dr. Whitelaw,

That a Committee of the Association be appointed to co-operate with a Committee of the Canadian Medical Association to initiate and forward the revision of the Public Health and Medical Acts of the various Canadian Provinces so as to give a uniform and comprehensive basis for the work of the medical profession in Canada, thus facilitating the formation and operation of the proposed Federal Health Department.

Moved by Dr. Hastings, seconded by W. M. Thompson,
That whereas the increasing yearly influx of immigrants to this country is rightly considered a danger to public health through diseased immigrants being given, the more particularly the mentally defective, inadequate method of detecting the majority of them when they arrive.

Be it resolved that the C.P.H.A. urgently request the Government to take this matter under their immediate consideration.

Moved by Senator de Veber, seconded by Dr. Woodhouse,
That the attention of the Federal Government be respectfully requested to the resolution urging the establishment of a Federal Inspection of Public Health.

Passed by the Association at its Annual Meeting.

Moved by Dr. D. D. Revell, Edmonton; seconded by Dr. W. W. Hill,

That in the opinion of the Canadian Public Health Association cases of advanced pulmonary tuberculosis may be quite safely cared for under proper arrangements in general hospitals, and that both in the interests of such cases and also more especially for the welfare of those who would otherwise be exposed to infection from such cases, it is highly desirable that pending the establishment of special hospitals for advanced cases, hospitals receiving Government or public support be required to provide proper accommodation for the care of cases of pulmonary tuberculosis. Provided that in the municipality where such cases are cared for in the hospital for contagious diseases or other special hospital, the other hospitals in the municipality be exempt from this requirement.

Moved by Dr. Revell, Edmonton, seconded by Dr. Hill, London.

That the Standard Laboratory methods of the American Health Association be adopted as the standard of the Canadian Public Health Association.

MEDICAL HEALTH OFFICERS' SECTION.

Resolved that it is desirable that Medical Health Officers throughout the province use every possible means of co-operation between the officials of the municipalities, the public and the Anti-Tuberculosis League in their efforts to raise funds and assist in every way their educational campaign.

Moved by Dr. J. G. Rutherford, seconded by Dr. R. A. McLoughry,

That in view of the fact that the education of the modern veterinarian includes suitable training in all branches of animal hygiene and food inspection, the veterinarian so trained is pre-eminently fitted to assume the responsibilities connected with this phase of public health work, this section of the Canadian Public Health Association dealing with Veterinary Hygiene, Food and Dairy Inspection, desires to urge the importance of appointing properly qualified veterinary officers to act in conjunction with Medical Health Officers on Boards of Health in cities and towns and in rural districts where veterinarians are available.

Moved by Senator de Veber, seconded by Dr. A. H. Wright,

That in the opinion of this association it is a matter of great importance that the Dominion Government do take steps to create a Department of Public Health in order that all federal branches dealing with health work may be co-ordinated under one administration.

Moved by Mr. T. Aird Murray, seconded by Senator de Veber,

That the committee formed at the last annual meeting to memorialize the Dominion Parliament on the importance of the prevention of the pollution of waterways, be continued in office in order that the duty for which they were appointed may be finally performed.

Cordial thanks were also given to the Government of Saskatchewan, the Mayor and Council of Regina and the citizens of Regina.

NEWS ITEMS

The J. B. Lippincott Company have moved to 201 Unity Building, Montreal.

Dr. F. J. Shepherd of Montreal has been elected an Honorary Fellow of the Royal College of Surgeons of England.

The Fifth Annual Meeting of the Medical Officers of Health of Quebec was held in Montreal, September 16-18, under the Presidency of Dr. A. Lachapelle of Montreal.

Dr. James C. Fyshe, formerly Superintendent of the Montreal General Hospital, has been appointed Medical Superintendent of the General Hospital at Edmonton, Alta.

The 26th Annual Meeting of the American Association of Obstetricians and Gynæcologists was held at Providence, R.I., September 16, 17, 18, under the Presidency of Dr. Miles F. Porter of Fort Wayne.

At the Annual Meeting of the American Public Health Association held at Colorado Springs, in September, Dr. Chas. J. Hastings of Toronto was elected Vice-President, and Chairman of the Committee on Papers.

The Aesculapian Club

The first meeting of the season of this medico-social club was held on the 9th of October, under the presidency of Dr. J. M. Cotton. Mr. G. G. S. Lindsey delivered an able address on the "Evolution of Parliamentary Government in Canada." Dr. Geo. Duffield, of Detroit, was also a guest of the evening, and added to the pleasure of the meeting by a felicitous reply to the toast of the visiting brethren.

Toronto Orthopaedic Hospital Clinics

This annual series began on Saturday, Oct. 18th, 1913, and will continue for five months.

October 18th, 1913—Fractures of the Lower Extremity; a new operating and fracture table to be shown. Dr. B. E. McKenzie. Discussion.

October 25th—Relation which general Diseases bear to Diseases of the Nose and Throat. Dr. J. Price-Brown. Discussion.

November 1st—Treatment of the Disabilities of Infantile Paralysis. Dr. W. W. Plumber, Specialist in Orthopaedics, Buffalo, N.Y. Discussion.

November 8th—On the Causes of Failing Vision in Adult Life. Dr. F. C. Treblecock. Discussion.

November 15th—Some Types of Sewage Disposal. Dr. John W. S. McCullough, Provincial Officer of Health. Discussion.

These clinics begin at 4.30 p.m.

There will also be an Orthopaedic Clinic each Saturday, beginning at three p.m., open to graduates and senior students.

Personals.

Dr. Wm. Oldright has returned from the West Indies.

Dr. F. Arnold Clarkson has removed to 421 Bloor Street West.

Dr. C. R. Dickson has been appointed Consultant in the Electrical Department.

Dr. George W. Badgerow of London, England, visited his friends in Toronto in the latter part of August.

Dr. Frederick W. Marlow, F.R.C.S., has been appointed Associate Professor in Gynæcology in the Medical Faculty of Toronto University.

Dr. Clarence Starr has resigned his position in the General and has been appointed Chief Surgeon in the Hospital for Sick Children.

Dr. Henry T. Machell has removed to his new office and residence, 216 St. Clair Avenue, corner of Dunvegan Road, two blocks west of Avenue Road.

Dr. A. Campbell Geddes, formerly Professor of Anatomy in the Royal College of Surgeons, Ireland, has been appointed Professor of Anatomy in McGill University.

Dr. Norman Shenstone has been appointed one of the Senior Surgical Surgeons in the place of Dr. Starr. Dr. Stanley Ryerson has also been appointed Senior Surgical Assistant. Dr. Beverley Milner has been appointed an assistant in the Out-Door Surgical Department. Dr. Thomas Hanley has been appointed Junior Anæsthetist. Dr. George Royce has been appointed Senior Assistant in the Eye and Ear Department.

Dr. W. P. Caven has resigned his position as head of one of the medical services in the Toronto General Hospital and Dr. J. T. Fotheringham has been appointed in his place. Among other appointments by the Board of Governors of the Hospital are the following: Chief of the Medical Department of the Out-Patient Clinic, Dr. William Goldie; Chief of the Neurological Section, Dr. Goldwin Howland; Chief of the Department of Skin Diseases, Dr. King Smith; Temporary Assistants, Drs. Cooper Cole, John Mitchell, F. W. Rolph, J. A. Oille, A. E. Trow and W. A. Williams.

Obituary

RODERICK McLENNAN, M.D.

Dr. R. McLennan, of Quincy, Me., died July 20th, aged 55. He received his medical education in Trinity University and graduated M.D. in 1887.

DOUGALD STEWART, M.D.

Dr. D. Stewart, of Teeswater, died at the age of 64. After graduating in 1876 he settled in Teeswater, and remained in practice there up to the time of his last illness.

JAMES RAE PATTERSON, M.D.

Dr. J. R. Patterson, of Port Elgin, died July 29th, aged 77. He graduated from Queen's University in 1867. After practising for a short time at Tiverton he removed to Port Elgin, where he was engaged in general practice about forty years.

THOMAS MAHON ARMSTRONG, M.D.

Dr. T. M. Armstrong died in Lloydstown, Ont., October 5th, aged 76. He graduated M.D. from Victoria University in 1860. After practising for many years in Alliston and Rosemount, in the County of Simcoe, he removed to Toronto about nine years ago and practised in that city up to the time of his last illness.

JAMES BAUGH, M.D.

Dr. James Baugh died suddenly at his late residence, 409 King Street, Hamilton, October 16, aged 64. He had been troubled more or less with disease of the heart for about two years. He received his medical education in Trinity Medical College and graduated in 1881. After practising for a time in London, then in Waterdown, then in Galt, he removed to Hamilton in 1887, and continued to practise in that city up to the day of his death.

CHARLES YOUNG MOORE, M.D.

Dr. C. Y. Moore, of Brampton, Ont., died after a long illness, September 11, aged 66. He was born at Derry West, six miles south of Brampton. He received his preliminary education in Brampton, his medical education in the Toronto School of Medicine, and graduated M.D. from the University of Toronto in 1871. Soon after graduating he settled in Brampton, and continued in active practice in that town up to the time of his last illness.

WILLIAM JOHN MCKAY, M.D.

Word was received from Mr. W. G. Griffiths, Secretary to Lord Strathcona, that Dr. McKay, of Saskatoon, had died in University College Hospital, London, England. The letter said that the doctor died of pleurisy after a brief illness.

He received his medical education at Manitoba College and graduated in 1889. After practising four years at Winkler, Man., he removed to Saskatoon, and was appointed medical officer of health for that city in 1904.

He went to England some months ago to do post-graduate work in hygiene. He was widely known and highly respected in the Western Provinces. His untimely and unexpected death has caused profound sorrow among his numerous friends.

Book Reviews.

Anatomy, Descriptive and Applied. By HENRY GRAY, F.R.S., Fellow of the Royal College of Surgeons; lecturer on Anatomy at St. George's Hospital Medical School, London. New (American) edition, thoroughly revised and re-edited, with the ordinary terminology followed by the Basle Anatomical Nomenclature, by Edward Anthony Spitzka, M.D., Director of the Daniel Baugh Institute of Anatomy and Professor of General Anatomy in the Jefferson Medical College of Philadelphia. Imperial octavo, 1,502 pages, with 1,225 large and elaborate engravings. Cloth, \$6.00 net; leather, \$7.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

A new American edition of Gray's Anatomy has just been issued and brought up to date. This term seems almost strange in regard to anatomy, but different methods, such as nomenclature, etc., cause new editions as well as the exhausting of the previous editions.

Gray's Anatomy has been the classic for fifty years, and is to-day, owing to its author and publishers having kept abreast of the times, so that it still retains its premier position as the text-book in anatomy. No medical school but what has it as its recognized text-book. The old nomenclature as well as the Basle is used, which is a great aid to those who refer to its work to-day to refresh their memory. There are so many features about Gray's Anatomy that are original and so highly commendable that really there is very little beyond saying it is one of the greatest text-books in the study of medicine.

The Doctor in Court, by EDWIN VALENTINE MITCHELL, LL.B., of the Massachusetts Bar. Cloth, \$1.00. Published by Rebman Company, Herald Square Building, New York City.

This little volume was written as an aid to the doctor when called to court. It is not a large work on jurisprudence, but concise and brief on interesting points of law as applied to the giving of evidence; explanatory of many pitfalls that are laid for the unsuspecting doctor by the cunning, cross-examining lawyer. It also shews the relation of the doctor to his patient.

the amount of responsibility he assumes in giving advice and treatment or performing an operation; tells what is confidential and what is not. It shows the responsibility of the doctor to the civil authorities. In fact, it contains so many points that should be well known, and are not, that every doctor, either recently graduated or **long in practice**, should possess and read it carefully.

While it is written largely from the American law standpoint, at the same time it reviews as well the English law and its application. In fact, American law is nearly the same as English law, on which it is founded.

Diseases of Children. By various authors, edited by A. E. GARROD, M.A., F.R.C.P., Physician to St. Bartholomew's Hospital, and the Hospital for Sick Children, Gt. Ormond Street, London, F. E. BATTEN, F.R.C.P., etc., etc., and HUGH THURSFIELD, F.R.C.P., etc., etc. Published by the Macmillans, of Toronto.

Great advances have been made in our knowledge of diseases of childhood during the last decade, and recognizing this fact the editors of this book endeavored to secure the services of men who have made a special study of the different varieties of diseases of children. There are altogether twenty-two contributors, including the three editors. We find, first, a general description of disease as it affects children. Some remarks on heredity, serumtherapy and vaccines, and a very excellent article on the feeding of children and infants. Following these introductory articles we find twenty-three chapters on the various diseases of childhood, including diseases of the new-born, diseases of nutrition, diseases of the alimentary system and abdominal organs, diseases of the respiratory system and circulating system, the genito-urinary system, the hæmopoietic system and lymphatic system, skin, muscles, bones, joints, nervous diseases, rheumatism and chorea, infectious diseases, congenital syphilis, tuberculosis, etc., etc.

We believe that each of these chapters is about as good and comprehensive as it can be. The book, as a whole, is excellent in every respect. There are 1,167 pages, in addition to the index. The book will be found in every way suitable for both specialists in children's diseases and also general practitioners. The price of the book is \$8 net.

Applied Anatomy. The Construction of the Human Body Considered in Relation to Its Functions, etc. By GWILYM G. DAVIS, Associate Professor of Applied Anatomy, University of Pennsylvania, M.D., Universities of Pennsylvania and Goettingen; Member of the Royal College of Surgeons of England, Philadelphia College of Physicians, and the American Academy of Medicine. With 630 illustrations, mostly from original dissections, and many in color. By ERWIN F. FABER. Philadelphia: J. B. Lippincott Company.

The study of anatomy *per se* is undoubtedly presented on the average in a manner little likely to arouse much interest on the part of the student. The practical aspects of the subject are not made clear to him, and as a result he looks on anatomy as a necessary evil to be crammed up for examination purposes and soon forgotten.

If such a book as the one before us were studied in connection with dissection, the subject would take on a new interest. Here is shown the relation between structure and function, either normal or diseased. The reasons for medical and surgical procedures are thus made clear, and a better understanding of the human organism results.

The book is beautifully illustrated and is in every way practical. We can earnestly commend it to all teachers and students of anatomy.

The Surgical Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago, published bi-monthly by W. B. Saunders Company, Philadelphia and London. Price per year \$8.00.

To be able to attend Clinics daily would give a wonderful impetus to extra study and much to the advantage of ourselves as well as our patients. In the busy whirl of practice in the cities, time prevents, and to those who do not live in the large centres the opportunity does not present itself, but when time and opportunity are brought to you the matter takes a different phase.

These admirable Clinics are published with comment by Dr. Murphy, than whom there is no more expert surgeon on the continent and who by close attention to details has brought himself to the forefront of American surgery.

These Clinics are published bi-monthly and contain about 200 pages, and cover the whole range of the clinic. We know of no volume that deals with matters surgical in so practical a way, and we feel sure that its already wide circulation will be extended. The number before us, No. IV. of the second volume, contains one article alone that is worth more than the subscription price to the whole volume, and that is the Blood Supply in and Around the Joints. Those who have to do with joint injuries and the surgery of joints can from these injected and X-Ray pictures see at a glance the whole blood supply and its bony relation.

Other articles are of equal value to this one, and certainly this volume should be on hand so that one can see the status of clinical surgery in the large centres.

Therapeusis of Internal Diseases, edited by FREDERICK FORCHHEIMER, M.D., Sc.D. (Harv.), Professor of Medicine, Medical Department, University of Cincinnati (Ohio-Miami Medical College), Volume IV., New York and London. D. Appleton and Company, 1913.

The fourth and last volume of this "The Last Word" in therapeutics, takes up the treatment of diseases of the kidneys, diseases of the bladder and sexual organs, diseases of the nervous system, and tropical diseases, and thus completes the series.

In addition an index to the entire system has been issued as a small separate volume. It is most excellently arranged and makes the value of the publication far greater, as one can at once refer to any desired information. The articles in Volume IV. are, as usual, exhaustive in their nature and written by authorities in their subjects. We can only say what we have said before, that Forchheimer's system is one without which no practitioner of modern medicine can afford to remain.

BOOKS RECEIVED

Blood-Pressure from the Clinical Standpoint. By FRANCES ASHLEY FAUGHT, M.D., formerly Director of the Laboratory of Clinical Medicine of the Medico-Chirurgical Hospital; instructor in Medicine at the Medico-Chirurgical College, Philadelphia. Illustrated. Philadelphia and London: W. B. Saunders Company, 1913.

Minor and Operative Surgery (including Bandaging). By HENRY R. WHARTON, M.D., Surgeon to the Presbyterian Hospital, and the Children's Hospital; Consulting Surgeon to St. Christopher's Hospital, The Bryn Mawr Hospital, and Girard College; Fellow of the American Medical Association. Eighth edition, enlarged and thoroughly revised, with 570 illustrations. Lea and Febiger: Philadelphia and New York, 1913.

A Manual of Otology. By GORHAM BACON, A.B., M.D., Professor of Otology in the College of Physicians and Surgeons, Columbia University, New York; Aural Surgeon, New York Eye and Ear Infirmary; Consulting Otologist, Roosevelt Hospital, Presbyterian Hospital, Hospital for Ruptured and Crippled, and Minturn Hospital, New York. Sixth edition, revised and enlarged. With 164 illustrations and 12 plates. Lea and Febiger: New York, 1913.

Industrial Poisoning (From Fumes, Gases and Poisons of Manufacturing Processes). By DR. J. RAMBOUSEK, Professor of Factory Hygiene, and Chief State Health Officer, Prague. Translated and edited by Thomas M. Legge, M.D., D.P.H., H.M. Medical Inspector of Factories. Joint author of "Lead Poisoning and Lead Absorption." With illustrations. Edward Arnold: London. 1913.

International Clinics. A quarterly of the Illustrated Clinical Lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pædiatrics, obstetrics, gynæcology, orthopædics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U.S.A. Volume II., twenty-third series, 1913. Philadelphia and London: J. B. Lippincott Company.

Fatal Air Embolism Due to Attempts to Induce Abortion.
J. ESPIE DODS, M.B., M.Ch.

A married woman, aged 23, rose at 5 a.m., in apparently perfect health. She prepared her husband's breakfast, saw him off to his work, and visited several neighbors, to none of whom did she complain of feeling ill. Her sister came to see her at 9 a.m., and was sent on an errand. Upon her return—about 30 minutes later—she found the woman lying upon the bedroom floor, dead. Beside her were two basins (one containing a fluid) and a Higginson syringe.

The necropsy was held at 8 p.m. The body was well nourished. There were no marks of violence. There were two small clots of blood lying in the vulva. The heart was healthy. The right side was distended with fluid blood, which was frothy. The inferior vena cava and the two iliac veins contained air. The uterus was of the size of a 4 months' pregnancy, and was emphysematous. The placenta was attached above and anteriorly, and had separated a little at its lower margin. The foetus was healthy and was in the sac, which had not ruptured. There was a little blood at the external os, but no sign of putrefaction. All the other organs appeared perfectly normal.

Death was evidently due to air embolism, following the partial separation of the placenta and accidental injection of air into the uterus.—*The Med. Review.*

Selections.

The Treatment of Malaria with "606"

Memmi (C.) and Cantieri (C.). *Riv. crit. di Clin. medica.* The authors used the drug in the treatment of malaria in 1910—1912, and go deeply into the literature of the subject. Their own patients were aged 19-35, and were persons who had not taken prophylactic doses of quinine, and were 8 in number. The salvarsan was given during apyrexia in 3, during the febrile period in 5. In 2 other cases Billon's arsenobenzol was employed. Of the 8 patients, 3 were in first attacks, 5 in relapses; 6 had æstivo-autumnal and 2 spring tertian malaria. The authors found that "606" did not cut short the pyrexia and did not prevent its recurrence; examination of the blood showed that the drug was not an efficient parasiticide. In some of the cases it seemed to lessen the predisposition to subsequent relapse, particularly in the case of æstivo-autumnal fever. It did not influence the general condition of the patients in any way. The combination of salvarsan with small doses of quinine was not more effective than the salvarsan alone.—*The Medical Chronicle.*

The Specific Use of Salicylate in Acute Rheumatism

Miller (R.). *Quart. Journ. of Med.*, 1913, vi., 519. Dr. D. B. Lees' advocacy of large doses of salicylates in rheumatic infections is well known. The writer has had access to the notes taken in this relationship on cases under Dr. Lees' care at Great Ormond Street. The notes are stated to be accurately kept. From analysis of 124 such cases the following conclusions were reached:—

1. The objection that the larger doses of salicylate do not simply increase absorption of the drug is without foundation.
2. The objection that the larger doses are too prone to produce vomiting to be of value is only partially true. The production of vomiting is more a matter of the type of case under treatment and the methods of administration than the size of the dose employed. The vomiting produced in severe cardiac cases must necessarily be a limitation to any anti-rheumatic action which the drug may possess in rheumatic carditis.
3. The objection that large doses are too prone to produce acid intoxication to be of value is only partially true. The

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method of administration is of more importance than the size of the dose.

4. The objection that the larger doses are dangerous and tend to increase fatalities is not supported by the series of cases examined. It is again a question of knowing how and when to use the drug.

5. The objection that the specific use of salicylate is unsound, as relapses, particularly of nodules, are not prevented, is not well supported by the series of cases examined. Most of the relapses occurred on or after small doses or a short period of administration of the drug; cases taking large doses showing some immunity to relapses. Nodules are not generally more commonly found in relapses than are other manifestations; and where they develop under large doses it seems that they signify little, if any, fresh activity on the part of the infection.—*The Medical Chronicle*.

Metatarsalgia

Gregoire (R.). *Arch. gen. de Chir.* Few maladies are more intractable and more difficult to treat than is metatarsalgia. Since Morton in 1876 first described this painful affection in the region of the head of the fourth metatarsal bone numerous views have been brought forward as to its etiology, but as yet no unanimity of opinion has been arrived at. The condition is most frequently found in women and not infrequently some injury, such as a blow or a strain, is assigned as the cause of the trouble. The pain is often intense when the patient is walking or standing, but usually abates when the foot is at rest. At first it is generally localised to the region of the fourth metatarsal, but later it may spread to the third and fifth and even involve the heads of all the metatarsal bones. The pain is usually described as being like that of a nail entering the foot, and may be so severe as to cause syncope. On examining the foot nothing abnormal can, as a rule, be detected. Some writers have described the presence of a subluxation of the metatarsophalangeal joints, but usually nothing is to be made out except marked tenderness on pressure over the head of the fourth metatarsal.

The numerous theories which have been advanced as to the cause of this painful condition may be classified in two groups—the osseous and the nervous. Gross, Peraire and Mally and others have described such changes as periostitis and osteo-



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sclerosis in the metatarsal head, but on the whole the osseous theory has met with little support. The theory which has received most support is that of nerve compression, but the original view that the digital nerves were nipped between the metatarsal heads has been now abandoned, not being in accord with anatomical facts. There is considerable evidence, however, that an undue laxity of the transverse metatarsal ligament permits of a collapse of the transverse arch of the foot and allows the metatarsal heads, particularly the fourth, to press on the digital nerves of the sole. Gregoire records a case presenting the typical symptoms of metatarsalgia where he cut down over the painful area in the sole and found a small neurofibroma the size of a pea on the digital branch in the third intermetatarsal space, and the removal of this gave the patient complete relief from all symptoms.

In deciding upon the line of treatment in any case of metatarsalgia the possibility of the presence of a small neuroma on one of the digital nerves should always be kept in mind and the question of an exploratory incision considered.—*The Medical Chronicle*.

Cancer Statistics

The formation of committees and other agencies for the study of cancer in many countries is leading to the collection of data that are of much interest and also in all likelihood of great significance.

As frequently noted, statistics in general seem to reveal an increase in cancer; but whether this may not be the outcome of greater accuracy in diagnosis is a question concerning which there is still a difference of opinion. Obviously, on the basis of the figures and facts now available, the solution of the question as to whether or not cancer is on the increase is most difficult. In the future the conditions for reliable comparisons will be more satisfactory.

The reports on cancer statistics coming from different countries are sometimes so much at variance as to suggest either that the mode of life and external conditions must play a large part in cancer or that the statistics given do not represent the true state of affairs. One example of this discrepancy may be cited. It is generally believed that cancer affects women much more frequently than men. Statistics from England and other countries indicate that it is so; but in Norway this does not seem to be the case.



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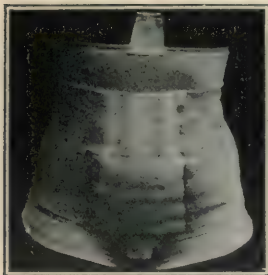
Soegaard's recent analysis of the statistics gathered in Norway by the Norwegian cancer committee reveals conditions in that country which are highly remarkable. In the first place the figures show a greater number of men to have cancer than women. The difference in favor of men is not large—of 37,046 deaths from cancer during 1865-1895, 18,413 were in men and 18,633 in women, who constitute 51.5 per cent. of the Norwegian population—but the point is that here the conditions noted in many other countries appear to be reversed. The Norwegian statistics also show a preponderance of cancer of the stomach, which is not the case in statistics from other countries. In a series of 9,528 deaths from cancer, 5,990, or 62.9 per cent., were caused by cancer of the stomach. For the ten years 1896-1907 following the period covered by this series, there were 19,263 deaths in Norway due to cancer, of which 12,582, or 65.3 per cent., were from cancer of the stomach. In the province of Nordland there were 1,235 deaths from cancer during 1896-1907, of which 913, or 73.9 per cent., were from gastric cancer. Another remarkable feature of the Norwegian statistics is the comparative infrequency of cancer of the female genital organs in Norway. The highest percentage of any district is only 8.3 per cent., while the lowest is 2.2 per cent. In considering this unusually low percentage Soegaard suggests that the explanation may be the small amount of gonorrhoeal infection in the Norwegian women.

We see then that the statistics from Norway, evidently gathered with great care and under favorable conditions, differ in three distinct points from the other figures: They show a greater frequency of cancer in men, a greater frequency of cancer of the stomach, and a comparative infrequency of cancer of the genital organs of women. What can this mean? Either that statistics are at fault or that social and other conditions play a decisive part in the development of cancer. If the latter is the case, which seems reasonable enough, the fundamental importance of accurate statistical studies of cancer under different conditions is self-evident. If these studies reveal that in certain countries, communities or districts there prevails cancer of certain organs or of certain types, then the next step would be to discover and eliminate the conditions on which the prevalence depends. There is great need in this country for the accurate study of cancer from this angle.—Editorial, *J. A. M. A.*

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Miscellaneous

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Is Tobacco a Drug?

An interesting case of splitting hairs has arisen in Ireland in the administration of the National Insurance Act, as to whether tobacco is a drug, a necessity, or a luxury, all three views being taken by different authorities. It appears that the superintending medical officer of the Dublin district recommended that a consumptive patient coming under the provisions of the Act be given tobacco for smoking, to comfort him in his last days, offering to pay for the weed himself, but the Insurance Committee decided that the tobacco was necessary to the patient's treatment and sent in the bill to the Insurance Commissioners. Two weeks later the local authorities received a lengthy communication demanding an explanation for their action in charging the Government with a shilling's worth of tobacco. Their reply was that tobacco was recognized as a drug in the British Codex under the title *nicotiana tabacum*, and that it had been prescribed by a registered practitioner. Thereupon the Commissioners consulted learned King's counsellors and they are still wrestling with the subject. Meanwhile the patient is dead, the tobacco has been smoked and the expense of the disputation has already reached a hundred times the cost of the original tin of shag.—*American Druggist*.

Subcutaneous Oxygen

It is only during the last year or two that a tendency has become manifest to afford quasi-asphyxiated patients the full measure of benefit to be obtained from the inhalation of oxygen. Previously it was regarded, or at any rate treated, so to speak, as of the nature of a viaticum, a something to be administered as a matter of routine as soon as it became obvious that the angel of death was hovering over the patient. Even so its effects, if fugitive, were none the less remarkable, though many a humane physician must have inwardly doubted the wisdom of thus rashly calling back to temporary consciousness persons who were in any case lost to the world. Employed early, oxygen may well tide over the crisis by averting immediate oxygen starvation. Administered in the usual way with a funnel-shaped mask, or passed directly into the patient's mouth *via* a tube glass, none can tell how much is going into the lungs, so that the practitioner is working somewhat in the dark. Then, too, this method is extremely wasteful, because much of the

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oxygen escapes into the air. Much simpler and more practical is the recently introduced plan of injecting the gas under the skin of the abdominal wall. All that is necessary is to connect the tube of the oxygen bag with a hypodermic needle and squeeze the bag until a sufficient amount has been injected. Or, if greater accuracy be desired, the gas can be pumped in by utilizing an ordinary rubber bulb syringe of the Higgenson type, the capacity of which is easily estimated. From 200 to 400 c.c. may be injected at a time, and as its absorption is very gradual the effect is maintained, which can never be the case when inhalation is practised.—*The Medical Press.*

Condemnation of Euthanasia

Is necessary every little while because this criminal suggestion is made every little while by some rattle-brained writer who imagines that physicians should kill all they think they cannot cure. It is not put exactly that way, but that it what it amounts to when reduced to its lowest terms and stripped of absurd qualifications. In the first place the basic purpose of the medical profession is to prolong life, not to end it. We never can cure anyone, that is we cannot put a sick man back to the exact condition he was in prior to his illness. Every sickness disturbs the delicate balance of functions permanently and reduces ability to resist the adversities of life. Our duty is to try to make him resist better and longer. Nor can we ever tell how long anyone will live. Some cases which we confidently expect to live many years will suddenly collapse, and the most desperate, apparently moribund cases, may react and outlive those who would have administered euthanasia were it legal. The basic absurdity in the proposition is the assumption that any sick man ever believes that life is not worth the living. In a temporary delirium, one may pray for death and beg bystanders to kill him, but we must look on those statements as we do the suicidal mania of the insane. Life is always worth living, and though some of us think we would prefer death to living as the submerged tenth, yet if adversity pushes us down with them, we still cling to life desperately. The plea that the physical suffering of the incurable is a reason for ending a life that might soon end itself, is made only by those who do not know that when necessary the physician always relieves such pain, though as a matter of fact the end of life on earth is generally as painless and unconscious as its beginning, and the

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nearer we approach the end the less we dread it. The very old may long for the end, but will never hasten it. The whole proposition to administer euthanasia is, therefore, without a single justification, but emanates from hypersensitive souls who imagine agonies which never exist. Murders merely shorten life, and euthanasia is, therefore, but one form of murder. All these facts are so well known and have been published so often, it is amazing that anyone could seriously advocate the horrible suggestion. Perhaps we might emphasize the absurdity of it by mentioning the fact that it would never be possible for a jury of physicians to be positive that an agonizing early death is inevitable except in desperate injuries where the shock itself causes euthanasia. We trust there will be no further approvals of the proposition, for though it will never be adopted, the mere discussions cannot fail to have a depressing effect on nervous people.—*American Medicine*.

Fatal Tobacco Poisoning

Edwin C. Garvin, M.D. (*Cleveland Med. Jour.*) A healthy girl, aged 6½ years, who had thread worms, was given by her mother a rectal injection of one pint of water, in which was dissolved 1½ teaspoonfuls of tobacco. The child immediately complained of faintness, inability to stand, and great nausea, and soon commenced to vomit very severely. The bowels also acted and a part at least of the injection was expelled. These symptoms continued for about fifteen minutes, then convulsions ensued and lasted about twenty minutes. The child became quiet, and died in collapse about forty-five minutes after administration of the injection.

Fatal tobacco poisoning is rare. Tobacco infusion is an old remedy among the laity for intestinal parasites. A practitioner might, in an unguarded moment, give his consent to the use of this dangerous poison.—*The Medical Review*.

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Original Communications

THE EMPLOYMENT OF RADIUM IN THE TREAT- MENT OF CANCER OF THE PROSTATE

BY DR. O. PASTEAU,

Former Chief of the Clinic of the Faculty of Necker's Hospital;
and

DR. DEGRAIS,

Former Chief of the Laboratory at St. Louis Hospital Paris.

(Arranged and edited by DR. W. H. B. AIKINS, Toronto.)

In previous publications¹ we have expressed our views on the subject of the surgical treatment of cancer of the prostate, and the reason we now revert to this question is that on the one hand it has just been discussed at the Seventeenth International Congress of Medicine (London, 1913), and that on the other hand we are now able to support the conclusions which we had already arrived at by certain new observations, which appear to us not to be without practical significance.

The surgical treatment of cancer of the prostate may be considered under two headings:—

1. *Palliative treatment.*—This consists chiefly of more or less prolonged suprapubic cystotomy, in some cases permanent and definite. It is instituted for the purpose of relieving the pain in severe cystitis, or because there are special difficulties in catheterisation (acute pain on insertion of the catheter, excessive size of the prostate, stenosis or absolute fixation of the posterior urethra, the presence of false passages). To sum up, patients who are suffering from cancer of the prostate, in addition to the special gravity of their condition in view of the

nature of the tumor itself, are simply cases of ordinary prostatitis, which are liable to all the symptoms of retention and infection which may supervene in the course of simple hypertrophy.

There is nothing specific in the treatment; cystotomy may be indicated in individuals with cancerous prostates, whilst nephrotomy is called for if retention and renal infection are present.

2. *Curative treatment by total prostatectomy.*—In the case of cancer this operation should be particularly extensive. It requires a rather special technique, for if it is desirable to make it complete, suprapubic enucleation, which is suitable for cases of simple hypertrophy, must be abandoned.

The cases of prostatectomy for cancer which have been reported, and upon which we have based our previous articles, are not very numerous. In 1911 the total number amounted only to twelve, and included cases reported by Leisrinck, Kuster, Young, Albarran and Heitz-Boyer. We then stated that "the mortality is very great, and favorable results are exceptional. The results of total prostatectomy for cancer of the prostate indicate that it is a severe operation, its immediate results being extremely grave, and its remote results too problematical."

It may be added that what has been published since 1911 does not appear to materially modify these conclusions. Moreover, it may be said to be practically impossible to obtain so-called curative treatment by ablation of the prostate, owing to the frequency of metastasis to neighboring and remote tissues (ganglia, bone, viscera). It is scarcely necessary to recall the researches of Motz and Majewski in regard to vesical extension,² those of Recklinghausen, Sasse, Davrinche and Young upon bony metastasis,³ those of Pasteau and Hallopeau on extension to ganglia.⁴ This latter form of extension is almost unanimously considered by anatomists and surgeons to be the rule, their absence being truly exceptional. It is, therefore, obvious that complete removal of a cancer of the prostate is usually impossible, in spite of the most extensive exeresis, as we cannot be certain that we have removed all the diseased tissue, and one of us has expressed this opinion in the following terms:—

"In cancer of the prostate curative operative treatment is really illusory. On the one hand it is very dangerous, and on the other hand it gives and can give only the most problematical results."

Certainly such a proposition is rather discouraging in its conciseness. And we have, therefore, endeavored to discover if we cannot obtain a satisfactory result with less risk to the patient, and if it is possible to deal with tumors of the prostate by means of radium.

In adults and elderly men the majority of these tumors are epitheliomata, either the adeno-epithelioma described by Albarran and Hallé,⁵ in which a glandular structure and well formed acinous cavities can still be discerned, or alveolar epithelioma, in which epithelial cells are diffused in the connective tissue stroma, which itself is more or less destroyed. That is to say, we are confronted by structures which are particularly susceptible to the influence of radium. It has, in fact, been proved by a multitude of histological investigations that epithelial cells, in common with sarcomatous cells, are included amongst those which are most influenced by radium rays.

It, therefore, appears only natural to admit that in adults malignant tumors of the prostate, by reason of their histological characteristics, may be influenced in their evolution by applications of radium, if the treatments are sufficiently intense and prolonged.

In addition it will be seen later that this view is not simply a theoretical one, but that practice has shown these hypotheses to be well founded.

We will now give the *technique of the treatment*.

At first sight it would seem that the depth at which the prostate is situated would render the application of radium impossible, and this would really be the case if one had to be satisfied with external applications to the hypogastrium and perineum. But it is easily seen that there are numerous modes of access to the prostate, and that treatment is, therefore, rendered comparatively easy.

In the first place it is quite evident that surgical routes may be utilized for the purpose of applying radium to the prostate, as for instance exposure of the prostate *through the perineum*, and placing a radium tube in each of its lobes, these tubes being left in position for a more or less prolonged period. The tube, which remains attached externally by a strong filament, may subsequently be easily removed through the operative wound.

2. *Through the bladder*, after a hypogastric incision. Intravesical applications may be employed in cases in which cystotomy has to be performed to relieve symptoms of retention, infection or hæmorrhage, or even after prostatectomy; the vesical

wound may be of service, by rendering it possible to place the radium tube in contact with the prostate or to place it in the position occupied by the enucleated prostate.

3. *By natural routes.* (a) *Per rectum.*—In this way the whole of the posterior surface of the prostatic lobes can be exposed, and it is then easy to irradiate the whole of the posterior portion of the gland. The applications should be made chiefly on the surface by means of radium plaques; the employment of tubes is also possible, but not so easy, owing to the fact that it is essential to cover the posterior portion of these tubes by impermeable screens, in such a way that the rays act only anteriorly upon the surface of the prostate. On the other hand, it should be borne in mind that tamponnage of the rectal ampulla is sometimes advisable, in order that the radium apparatus should not become displaced, but should remain in position and in close contact with the prostate.

(b) *By the urethra.*—This route leads directly to the prostatic tissue. The probe is completely surrounded by glandular tissue, which is especially abundant posteriorly and externally. On penetrating a little more deeply it comes into contact with the median lobe and the region of the supra-urethral glands, which is most frequently the origin of what is described as prostatic hypertrophy. If it is then possible, by means of a catheter, to introduce a tube of radium into the prostatic passage, this radium will be in the most favorable conditions for acting upon the neoplasm, and is in the midst of the tumor. Without any surgical intervention the surgeon obtains the best possible conditions for application. If a few precautions are taken, which we shall refer to later on, the treatment is easy to carry out. The treatment of malignant tumors of the prostate by radium applied by way of the prostatic portion of the urethra affords, in a large number of cases, the best conditions for its application.

We may add that one can do better still by placing a tube of radium in the prostatic passage, whilst at the same time another apparatus is inserted through the rectum. We thus obtain, without an operation, a "crossed-fire" application, similar to that which we endeavor to obtain by operative measures in the treatment of malignant tumors situated in other regions.

Let us now for the moment cease to consider the vesical and rectal routes, and turn our attention to the intra-prostatic application of radium. In this way we have treated fifteen patients,

in whom a clinical diagnosis of cancer was made after as complete and impartial an examination as possible.

It may be said at once that the greater number of these patients have not persevered sufficiently with the treatment. This is a fact which must be emphasized, for this want of perseverance in the treatment represents a veritable complication for the method. The reasons for it are as follows:—

1. We are dealing with a mode of treatment which necessitates numerous series of applications and careful surveillance.
2. Treatment by radium applications has to be done in a series of applications, repeated for a sufficient number of times. It is, in fact, essential to allow the rays to act for a sufficiently total period upon the tumor, and, on the other hand, it is absolutely necessary not to permit the radium tubes to remain for too long at a time in contact with the mucosa of the urethra, the bladder or the rectum. A necessary result of this is a prolongation of the treatment as a whole. Or the patients may not take into consideration the gravity of their condition, and, having as a rule no landmark for determining the beneficial result of the applications, lose patience and discontinue the treatment.
3. In other cases, as a result of radium treatment difficulty in micturition, and above all difficulty in introducing and passing the catheter, diminish fairly rapidly. This improvement may partially be due to the effect of catheterism and the repeated insertion of a catheter, which remains in position for two, three or four hours. But the beneficial results of catheterization do not explain everything. As a matter of fact the effect of irradiation is most obvious in patients in whom, before the commencement of the treatment, more or less complete retention necessitated the daily passage of a catheter, the canal becoming more flexible only after the radium applications. This is easily understood when we consider that radium has a manifest influence upon hæmorrhage and congestion, and that congestion plays a very important rôle in all cases of increase in volume of the prostate, whether due to simple hypertrophy or cancer.

However this may be, the patients experience marked relief; they are quite ready to imagine that radium has already given the desired result, are satisfied with their present improvement, and therefore discontinue the treatment.

The perseverance of the surgeon and the patient are indispensable elements to success. This is the reason why our two best results have been obtained in doctors, who realized more fully the gravity of their condition, and who were, consequently, willing to do everything that was necessary in order to obtain the maximum amount of benefit from the treatment.

It, therefore, does not seem fair to report all our cases consecutively, and to give statistics from the results thus obtained.

Some of the cases are too recent to be of any use in statistics. We, therefore, simply refer to the following six cases:—

Man, aged 68 years: Single series of six applications of 5 centigrammes for three hours, the last being on July 18, 1913.

Man, aged 82 years: A single series of applications of 4 centigrammes for three hours in March and April, 1913. Patient has not returned.

Man, aged 67 years: Two series of applications of 4 centigrammes for three hours in April and May, 1913; and of 5 centigrammes for three hours in July, 1913.

Man, aged 60 years: A single series of applications in February, 1913. Patient died in March from infection after cystotomy.

Man, aged 60 years: A single series of applications of two tubes of $2\frac{1}{2}$ centigrammes for three hours, terminating on July 17, 1913.

Man, aged 71 years: A single series of applications of two tubes of 2 centigrammes for three hours in February, 1913. Patient not returned.

In addition to these cases, many of the patients have not persisted with the treatment sufficiently long to obtain a very appreciable anatomical result, but the evolution of their disease after the radium treatment has invariably contributed very materially to the comprehension and investigation of certain peculiarities or of treatment in general.

We will now pass on to the study of cases which we have been able to examine at fairly remote intervals, and will first report the case in which we have obtained the best result. It is that of a doctor whose case we have already reported at the Second International Conference for the Study of Cancer in 1910. We will not repeat the details of the case, but content ourselves with emphasizing a few special points, and of adding recent reports, which he has given us himself.

This man, aged 57 years, suffered in November, 1908, and subsequently in April, 1909, from slight hæmaturia at the beginning of micturition. In consultation with Dr. Nitch, surgeon at St. Thomas's Hospital, London, one of us performed cystoscopy, in order to verify a diagnosis of an infiltrating and inoperable tumor of the bladder. He found in fact "a superficial and irregular tumor, not broken down, covered by non-ulcerated mucosa, which was, however, abnormally red. This tumor, the margins of which were fairly well defined, formed a marked projection more than half a centimetre in thickness. It was obliquely elongated, and extended from the margin of the neck on the right to the level of the right ureteral orifice. It was not pedunculated, but raised the mucosa *en bloc*; in its contour there was no change from the normal aspect of the vesical mucosa. Otherwise the bladder was everywhere normal. The ureteral orifices were normal, though the right appeared to be rather wider than the left, which was doubtless due to the mucosa being slightly thicker at this point, and to a certain disturbance of venous circulation. Finally cystoscopic examination demonstrated the existence of small rounded prominences on the right lateral margin, and a little more deeply in the tissue of the bladder at this level, for a length of about one centimetre. These prominences were regular and smooth.

"In the presence of these symptoms a diagnosis was made of prostatic neoplasm, which had extended into the vesical cavity, and after having completely emptied the bladder the rectum was palpated.

"The prostate is rather voluminous, but hard, nodular, irregular, fixed, and thickened in its right lobe, and here less easily defined. There is no engorgement of the ganglia."

The first series of applications of radium was made on October 2nd, 5th, 11th and 19th, 1909. (At the first séance a tube of 2 centigrammes was inserted, remaining in position for two hours; in the subsequent séances a dose of 5 centigrammes was given.)

On October 16, 1909, after the three first applications, cystoscopic examination showed that there was already marked diminution in the size of the vesical tumor.

Another series of applications was made on December 23, 1909, and on January 2nd, 6th, 11th, 15th and 20th, 1910.

A urethroscopic examination made by Goldschmidt's instrument on December 18th showed "that there was no ulceration and but little redness, excepting on the right side. On this side the wall was apparently elevated by fairly regular and rounded lobulations, one of which manifestly corresponded to a prominence which was seen on the margin of the neck of the bladder on the right side."

On February 13th a cystoscopic examination was again made by Dr. Nitch.

"It was easy to determine that the vesical tumor had completely disappeared; the position which it had occupied was vacant and there was no prominence; the mucosa here was apparently normal, though possibly rather paler than usual. This smooth zone extended from the neck of the bladder to the right ureteral orifice, which still did not seem quite as healthy as that on the opposite side. The vesical mucosa was normal throughout. On the other hand, examination of the right lateral portion of the neck showed the small rounded prominences seen at the first cystoscopic examination, but these prominences were now much less conspicuous than formerly. The mucosa, as before, was normal."

On rectal palpation "the prostate had obviously diminished in volume; its right lobe was the same size as the left; on bimanual palpation it no longer appeared globular; its consistence was still firm, but less hard; and in all ways it appeared to have recovered its normal mobility, as determined by comparison with the left lobe."

Another series of radium applications was given on April 5th, 9th, 14th and 19th, 1910; then on June 26th, July 1st and 4th; on one occasion only into the bladder, the others being given in the prostatic urethra. The dose was a tube of 5 centigrammes, remaining in position for two hours.

A cytosopic examination on October 24th, 1910, showed that the bladder was normal throughout, with no trace of tumor or of ulceration.

In March, 1911, another series of radium applications was given, with a tube of 5 centigrammes as before, but the duration of the applications varied according to the reaction from

the last séance. On March 21st and 25th it was one hour and forty-five minutes; on April 1st, two hours; on April 6th, one hour only.

On November 20th, 1911, rectal palpation showed a very small prostate, supple, regular and very movable, with no induration anywhere. No ganglia could be distinguished clinically. General condition perfect.

Another series of radium applications (tube of 5 centigrammes, duration two hours) was given on November 23rd, 27th and 30th, but no subsequent reaction occurred.

The patient was seen again in June, 1912, when he was in very good condition. An application of 5 centigrammes was made on June 17th.

A cystoscopic examination was made on October 17th, 1912; the bladder was normal throughout, and the mucosa regular.

Radium applications given on October 27th and 29th, and November 3rd (4 centigrammes).

When seen in April and in July, 1913, the patient was very well. There were no symptoms, and no pain either at the commencement or at the end of micturition. Nights good. Urine normal, with the exception of a slight excess of white corpuscles. The prostate remains much smaller than normal; it has, in fact, almost disappeared, and is quite supple.

The last cystoscopic examination was made on August 6th, 1913, and showed that there only remained at the level of the neck two small adenomatous projections, about $1\frac{1}{2}$ millimetres in thickness.

The following is a brief summary of this case in a few words:—A patient in whom in the first place inoperable tumor of the bladder was diagnosed; who suffered from a cancer of prostate, extending to the vesical cavity, with all the functional and physical symptoms of cancer of the prostate, and in whom the general condition was bad. Under the influence of radium treatment the vesical tumor completely disappeared, the prostate became mobile, small, supple and regular; the urine clear, and the general condition excellent. This result has been maintained since February, 1910, that is to say for more than three years.

When we reported this case at the International Congress for the Study of Cancer in 1911, we were the first to point out, in order that we might not leave it to anyone else to do so, that we had not absolute proof that we were dealing with a cancer.

Moreover, it is impossible to have such proof, since a biopsy is impracticable in cancer of the prostate.

We are, however, not convinced that we were not dealing in reality with cancer of the prostate. In addition to the history of this patient we can, in order to confirm this diagnosis in spite of the "effective action" of radium, point to other cases in which the cancer was obvious, and in which treatment by radium has led to results, if not as complete, at least quite analogous.

Here are some instances:—

A man, aged 65, who had suffered for four years from more or less severe symptoms of retention, was seen in July, 1909, with "a very voluminous prostate, fixed to the pelvic wall, hard, nodular, irregular, and presenting nodules, which were more indurated, multiple, and more completely developed in the left lobe. On this side there was a prominence resembling a horn, which elongated the prostatic mass in an upward direction; the prominence on the side of the rectum was marked." This is, with the exception of the presence of large hypertrophied ganglia, the perfect clinical type of diffuse prostato-pelvic carcinoma.

Series of radium applications were made in July and August, 1909, with a tube of 5 centigrammes, remaining in position for two hours and two and a half hours, the applications being repeated in September and October.

"In the course of this treatment a progressive improvement in the local and general symptoms could be determined. The insertion of the catheter gradually became more and more easy, and on rectal palpation the prostate was found to have very obviously diminished in volume; the prominence which was present at first seems to have flattened, and at the same time the lateral prolongations which attached the gland to the pelvic walls appear to have diminished in thickness. The consistence has also altered slightly. Since February, 1910, it has been noted that the hard and irregular nodules can be plainly felt as a more supple mass, though still fairly firm, but their general consistence was very different to that which had been determined six months previously, excepting at the left half of the base, where palpation still showed the same consistence."

These alterations became still more marked under the influence of renewed application of the rays, and at the end of 1910 the whole of the right half of the gland was much more supple, whilst the left retained its former characteristics.

The treatment has been persevered with in series during the course of the last two years, and it is very obvious that the extension of the carcinosis, which was already diffused in the small pelvis, has been arrested. At the present time, three years after the commencement of the treatment, the prostate, which has preserved its anatomical characteristics in such a way that no surgeon could be deceived as to its nature, remains less voluminous than in 1909. The patient continues to suffer from retention, and is obliged to use a catheter regularly several times a day, but his general condition has improved to such an extent that he is unrecognizable, the digestive functions are perfect, and there is a marked increase in weight.

We can also refer to another patient, aged 58 years, in whom the very voluminous prostate formed a sort of slab (or plate) upon the anterior wall of the rectum, and was uniformly hard. The left lobe, very much larger than the right, was very adherent to the pelvis; it was regular, and of uniform consistence, hard everywhere, and on double palpation could be felt to be deeply situated in the empty bladder. The right lobe was less voluminous than the left, and exhibited a prominence upon its apex, which was very much harder in consistence than the rest of the gland. After eight séances of three hours each, the dose being 4 centigrammes of radium, the gland was found to have notably diminished in volume, and to have become flattened. The left lobe, which was previously the most enlarged, had become the smallest. It was still adherent to the pelvis, but had considerably diminished in size, and had become more supple. Double palpation revealed no suprapubic prominence on the side. These findings were confirmed by Dr. Pardoe, surgeon of St. Peter's Hospital, London, who had sent this patient to us.

But we have had better results than this. We have observed three patients, in whom we have been able to determine by more minute observation a diminution in volume of the gland. The first, aged 62 years, had only one series of radium applications in May, 1912. Cystotomy was done on October 31st to relieve the symptoms of intense cystitis. The second patient, aged 54 years, also had only one series of applications in March, 1912. Cystotomy was performed on May 20, 1913. The third patient, aged 61 years, had one series of radium applications in February, 1913, cystotomy being performed on April 23rd. In these three cases, in all of which, when they first came under

observation, the prostate was hard and showed prominences, was adherent throughout, and showed all the clinical characteristics of cancer, it was found on opening the bladder, and inserting one finger into the rectum and another into the vesical cavity, that not only had the prostate as a whole diminished in volume, but that it had become quite supple in its median portion at the level of the urethral passage, that is to say precisely in the zone which had been immediately radiated. Its consistence had altered to such an extent that it would have been impossible for a surgeon who had not previously examined the patient to make a diagnosis of cancer.

To sum up briefly, the cases reported above apparently show with certainty that the action of radium has been obvious in several cases, in which a clinical diagnosis of cancer had been made by competent surgeons, and confirmed by examinations conducted in the best manner possible.

But, as we ourselves have pointed out, in all these cases anatomical confirmation is wanting, and we believe that we have been able to obtain such confirmation in a case, the history of which we will give briefly.

The case is that of a man, aged 69 years, who came under our observation on June 8th, 1911, complaining of repeated hæmaturia, associated with symptoms of vesical retention and infection. The prostate exhibited all the characteristics of a neoplastic prostate; it was very hard, and attached to the pelvis in its whole length. Radium was applied in four series of applications to the prostatic region of the urethra. These applications were made in September and October, 1911; in March, April, June, July, October and November, 1912. Under the influence of this treatment the gland diminished in volume and became more supple, especially in the urethral passage. The centres of the two lobes were still of firmer consistence than normal. The prostate became movable on the walls of the pelvis, to which in the first place it had been absolutely fixed. Mobility increased to such an extent that the patient asked to be relieved from the symptoms of retention, and accordingly one of us performed suprapubic prostatectomy on November 29th, 1912. Things are quite normal, and at the present time the patient remains completely cured.

The most interesting point in connection with this case is the fact that we were able to study thoroughly the structure of

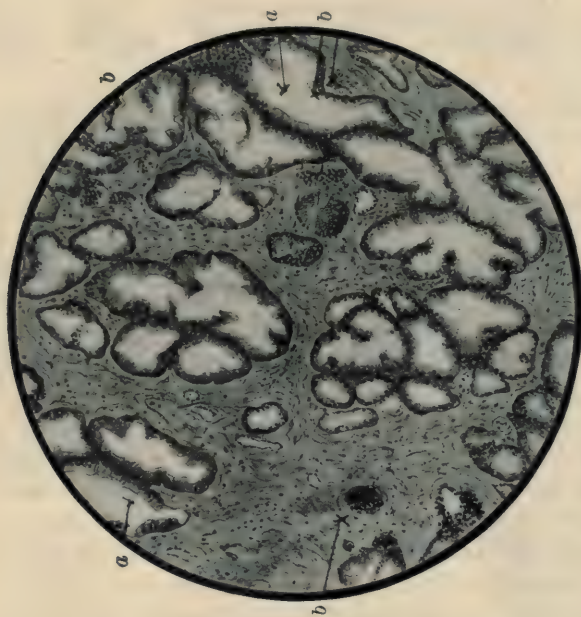


Fig. 1.—Tumor of the Prostate.
Adeno-epithelioma. (Albarran and Hallé's type.)
Fragment removed from the part most distant from the
centre of irradiation.
(a) Characteristic adenomatous alveoli. (b) Epithelial
nuclei in the midst of the stroma.

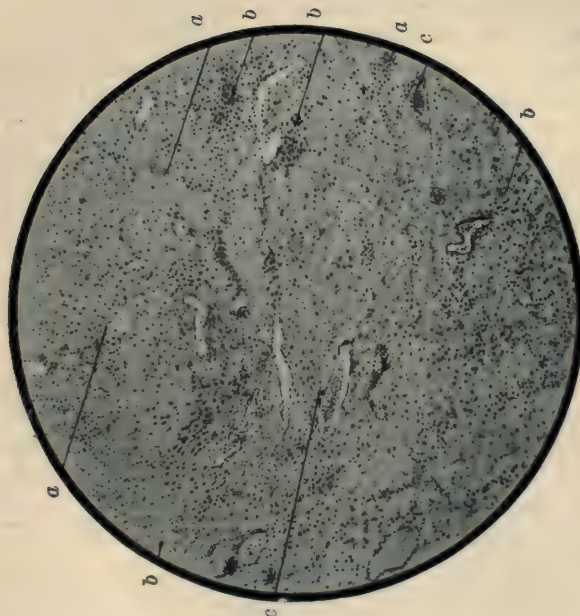


Fig. 2.—Tumor of the Prostate.
Adeno-epithelioma of the prostate. (Albarran and
Hallé's type.)
Fragment removed near the centre of irradiation.
(a) New connective tissue. (b) Mass of embryonal
cells. (c) Newly formed capillary vessels.

this prostate. We presented sections made by Dr. A. Bellot to the French Association for the Study of Cancer in July, 1913.⁹

It appeared to us that we were dealing with a typical case of what Albarran and Hallé have described as *adeno-epithelioma*, and we give here a very exact illustration of the points which to us appeared most characteristic. (Fig. 1.) The most competent histologists, amongst whom we may mention Messrs. Brault, Ménétrier and Darier, not having found diffuse epithelial infiltration, have stated that they could not certify the malignant nature of this affection, objecting that the tubes filled with polygonal cells are not epitheliomatous nodules, but correspond only to tangential sections of normal glandular acini.

This is, indeed, to destroy in a few words the history of adeno-epithelioma, and to include again amongst the lesions of simple adenomatous glandular hypertrophy this highly differentiated form.

Moreover, in similar cases, in addition to histological demonstrations, the subsequent course of clinical evolution retains all its importance, and, if we consider the progressive development of the tumor and its generalization, we are obliged to admit the malignancy of the condition.

Thus, amongst our observations, we have two cases in which there has been clearly demonstrated the presence of fairly voluminous inguinal adenopathy. One of these is the case of a man aged 63 years, the other that of a man aged 72½ years. In this latter case there was generalization at the level of the right frontal prominence, with exophthalmos, and also at the level of the sternum and in a left supra-clavicular ganglion, all of these being lesions which endangered the life of the patient. It is quite obvious that in this case the existence of cancer of the prostate could not be denied.

Moreover, what happened in these cases? In the first place the radium applications were made in the prostatic region of the urethra in November and December, 1911, and subsequently in June, 1912. In August, 1912, not only had the prostatic tumor notably diminished in size and become softer, but the inguinal ganglia which made the two sides one voluminous mass had diminished to half their original size. In the second case, in which the applications were made in May, 1912, not only did the prostatic prominences become less marked, and

the tumor apparently flattened, softened, and more movable, but the inguinal ganglia, which, at the beginning of treatment, more especially on the right side, formed a mass nearly half the size of the wrist, diminished to such an extent that they almost completely disappeared.

What can we conclude from these results if not that the influence of radium has been obvious in these cases of tumor of the prostate, not only upon the point at which the prostate is irradiated, but also upon the hypertrophied ganglia, which are more distant from the actual point of irradiation?

To sum up: since, on the one hand, curative operative treatment of cancer of the prostate is always dangerous and usually illusory, and since, on the other hand, treatment by applications of radium is without risk,* and may possibly be really useful, there should be no hesitation, when a cancer of the prostate is diagnosed, in giving repeated applications of radium, more especially at the point of origin in the prostate, according to one of the procedures which we have obtained previously referred to.

It may be said that we have obtained good results only in patients who were not suffering from cancer, but a consideration of the cases which we have reported is in favor of the belief that this is not so.

Speaking as clinicians, we will say no more than this: If it is true that our patients were not actually suffering from cancer of the prostate, it is none the less true that this diagnosis was the only one that could be made in these cases, and since no curative operation could be undertaken treatment by radium was indicated. In short, in all cases in which the presence of cancer of the prostate is suspected radium treatment should be carried out. If it does not effect a complete cure it alters the condition of the tumor to such an extent that prostatectomy can be undertaken with benefit and without risk.

It remains only to determine, from our personal experience, a few points in relation to the technique. For the sake of simplicity we are now in the habit of employing only intra-prostatic applications by natural routes.

*In no case have we observed the cancerous generalization which certain writers appear to fear, and we are of opinion that there is no more reason to fear generalization of cancer of the prostate after treatment by radium than the generalization of tuberculosis after nephrectomy for renal tuberculosis.

SELECTION AND PREPARATION OF THE APPARATUS.

What catheters is it advisable to employ?—Assuming that the patient to be catheterized is suffering from disease of the prostate the variety of catheter should be selected which is likely to be most easily inserted in such cases. The soft catheter of red india-rubber, described as Nélaton's catheter, is unsuitable, as it is too soft, and its internal calibre too small as compared to its external calibre. It is, therefore, advisable to employ the catheter (coudé) of gum-elastic.

On the other hand, in tumor of the prostate, the canal is usually more rigid, less flexible, sometimes less easily dilated, or even contracted, and bleeds easily. For these reasons the metallic catheter, to which it is necessary to adapt the canal, should not be used. It is advisable to use as flexible a catheter as possible; but, at the same time, it should be sufficiently resistant, in order that there should be no difficulty in the insertion of the metallic tube which it contains. Finally, it is essential that the external calibre of the catheter should be reduced as much as possible, whilst the internal calibre is kept sufficiently wide, not only to allow of the insertion of the tube of radium, but also in order that sufficient space may be left around it to permit of the escape of vesical fluid. This is necessary for the placing in position of the catheter, as we shall see later.

It is easy to fulfil these various conditions if the catheter is procured from a good maker. We ourselves always use the gum-elastic catheter (coudé) No. 17, but the important point is that the internal calibre should not be too small. One of us has even instructed Messrs. Gentile & Eynard, of Paris, to make a No. 16 catheter, which permits of the insertion of a tube 2 millimetres in diameter, leaving around this tube sufficient space to allow of the escape of the intra-vesical fluid. A catheter (coudé), No. 16 or 17 may, therefore, be employed, the internal diameter being as wide as possible.

How should the catheter coudé be prepared?—In order to facilitate the placing in a good position of the apparatus it is advisable to use catheters with a single orifice (or perforation) upon the distal portion. (Fig. 3.) The radium tube, being pushed in as far as the neck of the catheter, enters the prostatic passage just beneath the neck of the bladder, and the liquid in the bladder then escapes. In fact the orifice in the catheter is then precisely on a level with the neck of the bladder. The

front of the catheter remains in the bladder, whilst that portion of it in the immediate vicinity, which contains the radium, is situated exactly in the prostatic portion of the urethra.

The employment of a catheter coudé, with a single orifice, is not indispensable. If you have not at your disposal a catheter with a single orifice in the distal portion, an ordinary catheter with two orifices will serve the purpose. (Fig. 4.) It is, however, necessary to take a few precautions:—(1) Do not push the tube of radium further into the catheter than to the first orifice, and insert it in such a way that it will be everywhere covered by the tissue of the catheter, and not come into direct contact with the mucosa; (2) observe carefully the exact position of this tube in relation to the perforations of the catheter when placing the apparatus in its permanent position.

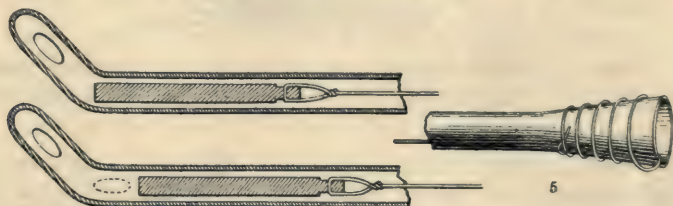


Fig. 3.—Longitudinal section of a catheter coudé, with a single orifice, with tube of radium in position.

Fig. 4.—Longitudinal section of catheter coudé with two orifices, and radium tube in position.

Fig. 5.—Rolling of the metallic wire, which is fixed around the circumference of the catheter.

The following is the procedure which we have adopted for the introduction of the catheter and for placing the tube of radium in it.

The metallic tube containing the radium is attached by a fairly resistant metallic wire (silver wire or, better still, bronze aluminum), which serves to carry the tube to the desired position in the catheter. That portion of the metallic wire which projects from the orifice is rolled around the catheter in such a manner as to keep everything in position. (Fig. 5.)

The radiferous tube should be placed in the catheter before catheterisation. If it has to be inserted after the catheter has been introduced, it may be difficult, or even impossible, to place it in the desired position, the catheter being more or less arched at the level of the prostatic portion or immediately in front of it. The rectangular tube, therefore, reaches the level of the

membranous urethra, but is unable to reach the deeper tissues. (Fig. 6.) By placing the tube in the catheter before catheterization this difficulty is overcome, and the application of the rays much facilitated. In order to facilitate their application still more we have used metallic tubes, which are placed end to end in the catheter, which is thus rendered much less rigid.



Fig. 6.—Diagram intended to show that the radium tube cannot be placed in good position in the rubber catheter, if the latter has already been introduced into the posterior urethra.

How should the rays be filtered?—We have just said that the radium tube should not be visible in the orifice of the catheter. In this way the rays, which ought to pass through the thickness of the platinum tube, are again arrested by the screen formed by the catheter itself.

As a rule the protection thus afforded is sufficient, but if necessary catheters with more opaque walls may be used, but these have the disadvantage of being larger in calibre externally, whilst the internal calibre remains the same, and does not permit of the insertion of a tube containing a larger quantity of



Fig. 7.—Tube of radium supplied with a metallic wire, which keeps it in position and fixes it in the catheter.

radium. The catheter may be also covered completely by a more or less envelope of india-rubber, fitting very closely. Finally catheters may be employed which, according to their composition, form more or less permeable screens. Their value may be determined by preliminary experiments.

What quantities of radium should be employed?—For the application of radium we at first employed silver tubes five-

tenths of a millimetre in thickness, containing a centigramme of pure sulphate of radium. Subsequently we used tubes containing 5 centigrammes of sulphate of radium, and finally silver tubes three-tenths of a millimetre in thickness, containing 5 centigrammes of sulphate of radium. (Fig. 7.) According to the cases and the local or general reactions which occur, we use at the present time tubes containing 2, 4 and 5 centigrammes, and we are thus able to profit by the greater part of the rays, always stopping short of producing symptoms of irritation.

SELECTION AND PREPARATION OF THE PATIENT.

1. *Selection of the patient.*—All cases of cancer of the prostate are obviously not to be expected to give equally good results under radium treatment. Those which are most responsive are those in which the prostate is small and the neoplasm still not very extensive. The less favorable ones are those in which the prostate is very voluminous, and there are advanced metastases to the pelvis and distant ganglia.

If for any reason the cases first mentioned are not treated by extirpation radium treatment is particularly indicated.* As to the second class of case, they may still be ameliorated, either sufficiently to render it possible to perform an operation in a previously inoperable case with a fair amount of security and benefit, or treatment by radium rays may make it possible for the patient to live without intervention. We have quoted above, cases corresponding to all these varieties.

2. *Preparation of the urethra.*—The application of radium necessitates the use of a No. 16 or 17 catheter coudé. If the canal is not sufficiently wide or sufficiently flexible it may be advisable to prepare it by progressive dilatation. As we have seen, this preparation is of special importance in the case of neoplasm of the prostate, as in this condition particularly hæmorrhage, which may lead to very serious results, is likely to occur if violent pressure is used or the passage forced.

3. *Preparation of the bladder.*—Two classes of cases have to be considered in this connection:—

1. It may be that the patient suffers from urinary disorders, and emptying and irrigation of the bladder is indicated. In such cases repeated catheterisation, the insertion of the catheter,

*It would also be indicated in simple adenomatous hypertrophy if there was absolute contra-indication to prostatectomy.

and its remaining in position for a more or less prolonged period, could not fail to have a favorable result. This is contributed to by the fact that when the catheter is in good position it continuously empties the bladder, and thus rests and cleanses it. There is nothing specific in this.

2. It may be that the urine of the patient is clear, and if so it is imperative that the greatest precautions should be taken to avoid infecting it under the pretext of treating the neoplasm. The most extreme surgical cleanliness is indispensable, and the more full the bladder is the more essential is this strict cleanliness. We have learnt from the teaching of our master, Guyon, that, in the presence of a distended bladder containing clear urine, the slightest infection may be suddenly fatal, and therefore it is advisable to be on our guard against its occurrence. For several days before commencing irradiation the interior of the bladder should be treated by urinary antiseptics, such as urotropin, helmitol, etc. On the other hand the bladder should not be completely emptied at once, but the patient should become gradually accustomed to catheterisation before commencing radium treatment.

4. *Anæsthesia*.—The question of anæsthesia, even local anæsthesia, does not arise. It is far preferable not to use any anæsthetic at all, as there is much less tendency to introduce forcibly too large a catheter, or to catheterize a canal which is not sufficiently flexible to tolerate the treatment easily.

METHOD OF PLACING THE APPARATUS IN POSITION AND DURATION OF THE APPLICATIONS.

1. *Method of placing the radium apparatus in position*.—In order to place the apparatus containing the radium in a proper position, it should be prepared in the manner above indicated, and the following precaution should be taken, namely. the catheter should be introduced only when the bladder contains fluid. This precaution is indispensable if the apparatus is to be placed in a good position. Consequently, if the patient has not urinated for a certain length of time, or even if he has just urinated, a certain amount of fluid should, in any case, as a preliminary precaution, be introduced into the bladder.*

*If the urine is opaque preliminary lavage of the bladder is usually indicated. The lavage is followed by filling the bladder before insertion of the radium apparatus.

The catheter is introduced into the bladder in the ordinary manner. As soon as the vesical fluid escapes through the catheter, the latter is gradually drawn back until it ceases to flow. Precisely at the moment when this occurs the orifice or orifices in the catheter have reached the urethra, below the neck of the bladder. If it is desirable to radiate the neck of the bladder, all that is necessary is to push the catheter slightly further in, and place it exactly on the point which you wish the rays to influence. If the object aimed at is radiation of a median lobe, projecting into the bladder, the catheter should be pushed in sufficiently far to effect this. If you wish to radiate a point nearer the front of the prostate the catheter should be drawn slightly outwards. But in the latter case it is better to insert the radium tube less deeply in the catheter. If this precaution is taken the orifice of the catheter remains at the level of the neck of the bladder, and the urine flows away drop by drop during the course of the applications. If this is not done the patient may experience such a desire to urinate that it is necessary to interrupt the séance, and the duration of the radium applications is thus unnecessarily shortened.

5. *Duration of the applications. Repetition of the seances.*
—As a general rule, both as regards the duration of the radium applications and the frequency of their repetition, we have to take two factors into consideration:—(1) The reactions which follow the applications, which we will consider more in detail later on; (2) the giving of a sufficient amount of radiation. The amount of radium employed and the thickness of the screens (more especially that of the wall or radiferous tube) are of necessity details of paramount importance.

After having tested the susceptibility of the patient the applications of radium are made every three, four or six days, the duration of the applications varying from two to three or four hours, the dose from 2 to 5 centigrammes, and the thickness of the screen from five-tenths to three-tenths of a millimetre.

After a series of five or six of such applications it is advisable to suspend the treatment for three or four weeks before commencing a new series.

In addition to the reactions complained of by the patient, the results of rectal palpation, simple exploration of the urethra, and of urethroscopy and cystoscopy, all furnish useful indications for the repetition or the continuance of radium treatment.

CONCOMITANT AND CONSECUTIVE TREATMENT.

In this chapter we shall deal essentially with the treatment of all the complications which may occur in association with the primary disease.

Above all it is necessary to guard against local or general infection. If it supervenes it should be treated in the ordinary way by internal disinfectants, such as urotropin, salol, etc. The local treatment should include instillations and lavage with various antiseptic solutions, and if necessary the performance of cystotomy or nephrotomy.

General treatment is obviously indicated, as in all cases of neoplasm. There is nothing specific in it.

On the contrary, a distinction should be made between those symptoms which are the normal results of the treatment undertaken, and those which are exceptional.

After intra-prostatic applications of radium it is normal to observe various reactions, either local or general. Some of these are common to applications of radium in any locality, whilst others appear to be specific to intra-prostatic applications.

(a) Amongst the symptoms which are common to applications of radium in any locality may be mentioned in the first place lassitude, fatigue, sometimes torpor and drowsiness. The latter appears either immediately or a few hours after the applications, and more rarely at a more remote period, such as the following day or the day after that. This special condition persists for a few hours to two or three days, and may necessitate complete rest in bed for a few hours, but rarely for more than twenty-four hours. According to our own observations it is more marked after very prolonged and very intense applications, and is most likely to occur at the beginning of treatment. In subsequent séances it may disappear completely, but, as a rule, there is a slight recurrence of this symptom in patients who exhibited a very intense reaction of this kind at the first séance.

In some cases, owing to this generalized fatigue, we are obliged to lengthen considerably the intervals between the séances, and one of our patients, who was a doctor and made observations on his own case, arrived at the following conclusion:—"Although I do not suffer at all after the radium applications, I experience a kind of lassitude, which takes away

all desire for movement or walking for two or three consecutive days, and I, therefore, think that one application a week is sufficiently frequent."

This lassitude varies considerably in individual cases, and some patients apparently tolerate almost without any fatigue applications of 5 centigrammes repeated every two or three days, the apparatus remaining in position for three hours. Age or an infective condition of the urine appears to make no difference from this point of view, nor does the size of the tumor.

2. We have never observed fever in the reaction following the applications.

3. On the other hand, after intra-prostatic applications, as after applications to other parts of the organism, there is a sensation of heat and pruritus, evidently due to the local action of the radium. These symptoms, owing to the region in which they occur, have rather special characteristics, of which we will give a few details.

(b) The reactions specific to the region to which the radium is applied are as follows:—

1. During the applications the sensations of heat or of smarting are rarely so intense as to cause marked discomfort. In one case only, that of a colleague, have these symptoms been so severe as to necessitate interruption of the treatment, which was resumed without any inconvenience two or three days later.

In this connection it should be pointed out that it is not fair to ascribe to radium irritation which is due to the use of the catheter itself. In one of our cases, in which the patient complained of a considerable amount of suffering from the use of radium, we were able to demonstrate that the presence of the catheter was responsible for the pain, which was equally acute after the use of the radium was abandoned. In any case it is wise to distrust catheters which have been sterilized by formalin, and which have not been sufficiently deformalized. The use of formalin should be avoided, owing to the fact that it tends to produce irritation, and it may, therefore, either mask symptoms of irritation due to the radium, or may accentuate them.

2. A very unpleasant local reaction, with sensations of heat and burning, may appear either immediately after the applications, or one or two days after.

This reaction is much more common than pain in the course of the applications, and may be said to be normal. One of our

patients informs us that it is never intolerable; that it is sometimes fairly severe; but much more often slight, and that it disappears in two or three hours. The painful sensation is situated deeply in the perineum, upon the median line or in the lateral portion. It is felt more on one side than the other,* sometimes towards the anus, the scrotum or the superior and internal portion of the thigh, but rarely towards the extremity of the gland.

Real pain is exceptional, and in our experience we have only met with it on two occasions. These were cases in which two or three series of applications had been made, with intervals of only three to five days. Moreover, if the treatment is interrupted all the symptoms rapidly disappear.

3. The local irritation in the course of the applications may produce a certain degree of spasm of the urethral sphincter, so that, on attempting to withdraw the catheter, it appears to be firmly fixed in a passage which has become more narrow than it was when it was inserted. In one of our cases this symptom was very marked at the end of a second series of applications. This case came under our observation three years ago, and the symptom did not recur on subsequent applications. We have also observed it in one other case, which came under our observation during the present year. It is worthy of note that in both these cases the urine escaped more freely and more rapidly than usual, and that there was no pain, excepting at the end of micturition.

4. Frequency of micturition may be said to be the rule. Even in the course of the applications, owing to the presence of the catheter in the canal, to which the patient is not accustomed, there is more or less desire to urinate. After the intra-prostatic application of radium this desire persists for a few hours to several days, but without any trace of infection. It is obviously due to the action of radium upon the posterior urethra.

Together with the frequency of micturition, at first every half hour, then every hour, there is normally a certain painful sensation on emission of urine, resembling a crisis of urethrov-vesical infection, but there is otherwise no pain. But as we

*It should be noted that the side on which pain is most intense does not correspond to that side of the catheter on which is the lateral perforation, since the tube of radium is always placed on this side of the perforation, and, in regard to the perforation, is never in such a position that it can act directly upon the mucosa of the region.

have just said, these symptoms may appear and persist without any trace of infection of the urine.

In one case we found that these symptoms persisted for nearly a month after the cessation of treatment.

5. More or less marked symptoms of cystitis, due to deficient asepsis, may occur even when the most scrupulous aseptic precautions have been taken, owing to the fact that the urethra, which is slightly infected previous to catheterisation, is irritated by the treatment, and therefore more susceptible to local infection.

This accident frequently occurs, and therefore after every application of radium in the posterior urethra, especially if it has been a little prolonged, it is very desirable to perform irrigation of the bladder with a solution of nitrate of silver (1 in 1,000). On removing the catheter a few drops of this solution should be allowed to flow into the canal. This is not a very difficult precaution, and it may prevent persistence of the local symptoms, and of pain and frequency in micturition.

6. Hæmaturia or urethrorrhagia are exceptional complications. We are of opinion that they may occur in cases in which the canal has not been sufficiently prepared for the passage and remaining in position of a semi-rigid No. 16 or 17 catheter.

An attempt should never be made to dilate the canal with the radium apparatus, which ought to penetrate without any difficulty. It is important not to add to the excitement which is normally produced by the radium by useless irritation due to the employment of too large a catheter.

In several cases we have observed a pale pink coloration of the urine immediately after insertion of the catheter, which disappears in the course of the application. On the other hand we have, in one case only, observed marked hæmaturia, in a patient who subsequently underwent prostatectomy. It disappeared after removal of the radium apparatus, the latter being replaced on the following day without inconvenience.

As to the urethrorrhagia which we have observed in a few cases, it has always been limited to a few drops of blood appearing immediately after removal of the catheter, and we have never seen any recurrence of it after the next micturition.

7. Finally in two cases we have seen the evacuation of fairly abundant muco-purulent débris, persisting for eight or ten days. This thick débris, obstructed the catheter and necessitated aspiration. In both of these cases we had given two

or three series of applications, at intervals of four or five days, the doses given being 4 to 5 centigrammes, and the apparatus remaining in position for three hours. This we have done in other cases without any complication whatsoever. The condition disappeared absolutely on the cessation of the treatment.

We are of opinion that in all cases it should be borne in mind that applications too often repeated or at too frequent intervals may, in what particular class of case it is impossible to determine, lead to the expulsion of abundant muco-purulent débris. That is to say, that it is advisable to prolong the intervals between the applications as soon as such symptoms appear, as they are indications of too violent a reaction of the tissues to the radium.

CONCLUSIONS.

Radium certainly exerts an influence upon cancer of the prostate.

Radium may be used by introducing it into the gland:—

1. By operation, by the ordinary surgical routes of access, that is to say the perineum and the bladder.
2. Without operation by the natural routes, more especially the rectum or urethra, which permit of reaching the centre of the tumor.

By this method of treatment a prostate, which is primarily inoperable, may be reduced to such an extent that prostatectomy may be performed without danger.

In other cases it may result in suppression of hæmaturia, and sometimes even in complete disappearance of the tumor and of certain masses of ganglia.

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Reports of Societies

CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA—CHICAGO

JOHN HUNTER, M.B., TORONTO.

There opened, on Monday, Nov. 10th, in Chicago—the great metropolis of the Middle West—the third in the series of meetings of the Clinical Congress of Surgeons of North America. From early morning to quite late in the evening, clinics were given in practically all of the most important hospitals in Chicago.

The first impression on taking up the bulletin for the day was—how can I get the best out of so many most interesting clinics? The list included something like the following—Chronic appendicitis, inguinal, umbilical, and ventral hernia, gastric and duodenal ulcers, craniotomy, amputations, acute thyroiditis, demonstrations of nitrous oxid, and oxygen anæsthesia, x-ray and lantern slides, cancers, fractures, gall bladder, gastroenterostomy, hysterectomy, pyloric stenosis, ankylosis, angioma, movable kidneys, fistula, varicose veins, transplanting tendons, club-foot, congenital dislocation, general radiology, glaucoma, submucous resection, tonsillectomy, mastoid,—in brief, all pathologic conditions accessible to the surgeon's knife. Visitors made a choice of their clinics largely by the repute in which they held the different surgeons. One had not to wait very long in any group to find that Murphy and Ochsner were the most sought after. Their clinics always drew exceptionally large crowds. However, as special tickets were given out the day previous, overcrowding was somewhat mitigated. Murphy, at one or more of his clinics, showed some splendid results from the implantation of sections of bone. He emphasized very strongly the importance of early passive motion in joint lesions. He caricatured the too common method of treatment of cancer, by many physicians, by saying, that it was first an ointment followed by superficial and later deeper cauterization, then removal of a small wedge of tissue; lastly a more extensive excision, then the undertaker. However, he stated facetiously, that when the surgeon does the orthodox radical operation at first, his patient shows the scars to her friends, and they hunt up another surgeon to operate on them. Ochsner outlined the method taken at his

clinic to make the diagnosis. He examined the patient and wrote down his conclusions. His medical assistant then took the case in hand and wrote his opinion; specialists were called on if necessary; then a conference was held, the written statements of each discussed, and a conclusion arrived at. The result of all this work was likely to provide an accurate result in regard to diagnosis.

One feature of the clinics at Chicago stood in rather marked contrast to those of last year at New York, viz., the immense importance given to the work of the physician, especially when the gastro-intestinal tract was involved. This is a feature that deserves far more consideration than it has been receiving during the past two or three decades. About half a century ago began the reign of a dynasty of German pathologists, who eschewed the work of the internist about altogether. They would hold up to the student a cirrhotic, or a carcinomatous mass, and ask what can drugs do for such a condition? For a time such teaching had a disastrous effect. Physicians lost confidence in their art, and a carnage in surgery ensued. However, within the past few years another renaissance in medicine has been evolved. Koch, Ehrlich, and a host of scientists have elucidated the etiology of many diseases, and so great have been the advances in bio-chemistry, hygiene, radio, and serum therapy that the internist has it in his power, in at least a large number of cases, to prevent the end-results, the presence of which makes the pathologist so skeptical as to the value of any treatment by medicine. If the physician of to-day does not merit the confidence of the surgeon it is because the former is either ignorant of, or too indolent to use, the knowledge at his hand. Nothing at the Congress gave greater pleasure than the high appreciation of the services of the physician by the surgeon.

THE CLINICS.

As the individual has only one pair of eyes his powers of observation are therefore very limited. One case that attracted much attention was the plating of the fractured ends of a femur by Sir Arbuthnot Lane. The injured thigh was freely painted with tincture of iodine, an incision made through skin and fascia, and the tissues separated from the bone for some distance either way from seat of fracture. The distal portion of the limb was carried across the sound one until the ends of the fragments were at a right angle; everything that might prevent an accurate adjustment of the ends of the fractured bone was removed, and the leg brought back to normal position. The

ends were fastened together by a plate held in position by screws. The wound was not touched by the hands of the surgeon. As soon as the skin was incised, its edges were turned out and clamped in a towel. No ligatures were used, and the skin approximated by metal clasps. Some one asked Sir Arbuthnot Lane if any bad results followed from his method. His prompt and facetious reply was, "If bad results do occur they were due to bad surgery, and he had no experience in that." He, too, placed great emphasis on early passive motion in joint lesions. When one witnessed the splendid results obtained—though the technique adopted by individual surgeons varied so much—the conviction was forced upon him that, provided the principles were sound, the young surgeon had far better recognize his own limitations than to attempt any very close imitation of some one of the masters. Methods that might give brilliant results in the hands of a Lane, a Murphy, or an Ochsner, could easily bring disaster to less competent men. In surgery, as in every other art, fundamental principles can be carried out by a very simple technique.

TONSILLECTOMY.

It was held that in childhood the tonsil has a function in preventing the ingress of pathologic organisms, and in producing a secretion, but in later life it is probably useless, and when diseased an actual menace, for it may become a source from which infectious material can be widely disseminated. The ear is especially vulnerable to infection from a morbid tonsil. Complete enucleation was the only method pursued at the clinics. The one followed at the Frances Willard Hospital was quite unique, and certainly very efficient. Local anaesthesia was used in many of the cases. A one-half of a one per cent. solution of novocaine was added, to dilute to one-eighth its strength, a one in one-thousand solution of adrenalin, and a few minims of this injected around the margins of the tonsils and pretty deeply into upper and lower ends of these glands. In a few moments the anaesthesia was quite marked. Each end of the tonsil was securely seized by the teeth of a pair of tonsil forceps, and the tonsil drawn toward uvula. A slight semi-circular incision was then made in the mucous membrane at the upper end of the tonsil. A pair of curved scissors with a slightly blunt point was introduced through the incision and passed down between the capsule of the tonsil and the constrictor muscle and the blades separated and withdrawn. Any adhesions left between the tonsil and the pillars, on either side, were dealt with by a

blunt dissector. The forceps were then removed and that tonsil left in situ, and retained by the, as yet, undisturbed attachment at its lower end. The other tonsil was similarly attacked, but instead of releasing the grasp of the tonsil forceps a scalpel was placed edge upward beneath the tonsil, which was drawn down over it in order that the mucous membrane might be incised. A snare was slipped over the tonsil and a very complete enucleation speedily effected. The results claimed for this operation were, first, complete enucleation with any condition of tonsil: second, avoidance of any injurious traumatism of adjacent structures.

EVENING SESSIONS.

These were held in Orchestra Hall, Michigan Avenue, and attended by about two thousand visitors. Dr. Harvey Cushing, of Harvard, gave the first address. His mortality, in 156 cases of operation on the Gasserian ganglion for neuralgia of the face, was two deaths. The neuralgia affected the right side in 62 cases, the left in 36. In some patients both sides were affected. The injection of alcohol has also been found very beneficial in the treatment of these cases. Dr. Brewer described a series of experiments on animals for the complete closure of the pyloric orifice. Dr. Andrews welcomed the visiting surgeons, and Sir Rickman Godlee, President of the Royal College of Surgeons, and Dr. McLaren, President of the Canadian Medical Association, made very felicitous replies. In the address given by Mr. Patterson, of London, special reference was made to the function of the opening in the stomach made in the operation of gastro-jejunostomy. Contrary to the opinion usually accepted, that the benefit was largely due to the direct passage of the contents of the stomach through the artificial aperture, he stated that equally good results follow when the contents continue to pass by way of the pyloric orifice. The new operation allows of the more ready escape of gases, and thus prevents over-distention of the stomach. He called special attention to the direct association of gastric and duodenal ulcers with appendicitis, and with the morbid conditions due to disease in the biliary passages, and in the pancreas. Dr. Rosenow's address marked an epoch in bacteriology. With a series of beautiful lantern slides he showed, for instance, that such a germ as the streptococcus, could be so changed, by using different media, as to produce tonsillitis, rheumatism, muscular and articular, pneumonia, etc., or that the pneumococcus could be transformed into a veritable streptococcus. Dr. Thomas Cullen was chief spokesman for the anti-cancer propaganda.

PROCEEDINGS OF THE ACADEMY OF MEDICINE TORONTO

At the monthly meeting of the Surgical Section of the Academy of Medicine, November 18th, in addition to the papers and cases presented, a very interesting address was delivered by the President of the Associated Harvard Alumni Associations, Dr. Percival J. Eaton, Pittsburgh.

Dr. Eaton's work was not surgical, but was confined entirely to pædiatrics. He referred to the fact that mothers, nurses and fathers often knew very little about the care of the human young, and said the nurses and the mothers speak of intuition in feeding children. He did not believe in this and had found that where children are fed and cared for by intuition the result is usually bad. There are certain principles which he tries to teach nurses and mothers, and the principles are, that the child has a right to live and be comfortable, the right to be happy and to grow up in the image of God and not in the image of the devil. To accomplish this the child must be trained.

All children may be divided into two classes: (1) Dear sweet little children; (2) brats, and the reason for the latter class is, that these children have not been trained. On this principle depends the preservation from decadence of the English speaking races.

Character is the result of training, and after all character is what counts. The time to commence training human beings is immediately after birth and not later. The earlier the work of training is commenced with the baby, the better the training in habits of body, in tendency of mind, and towards development of character. He told of the wonderful work in training done by two or three Pittsburgh nurses, how the baby was early taught in habits of cleanliness and taught to go to sleep, and the way to do this is to carry out with the child the same routine on each succeeding day. The old saying, "The hand that rocks the cradle rules the world," might be changed to "The hand that rocks the cradle spoils the world." This is probably more true in the United States than in Canada and other countries. He referred to the wrong principles in the making up of the baby's clothing and said there is a future for the woman who will design clothing for children, beautiful, hygienic and comfortable. He told of the simplicity of the dress of the children brought to the clinics at Vienna and urged a dress reform for children. He believed a mean might be found between our own elaborate clothing and the simple covering of the Slav.

He spoke of the pleasure it was to see in Toronto, at the

General Hospital, the Children's Hospital and Preventorium, the scientific use of fresh air, and told of exceptional results in preventing complications if cases of measles are treated in the open air.

In feeding children every child must be considered a unit. Dr. Holt had written the best book on infant feeding, but mothers did not receive much help in trying to follow its rules. The child should be fed on the breast, but when that is impossible the next best food is that which comes nearest to breast milk. Feeding tables in most books are like composite photographs, they look like no one, and the table in the book suits no particular child. A child requires a food consisting of proteids, fats and carbohydrates in proper relation and quantity.

A vote of thanks, moved by Dr. H. Hamilton, and seconded by Dr. A. Primrose, was tendered heartily by the fellows.

Dr. A. Primrose reported a case of hypernephroma of the kidney. The patient, a farmer, had a history of hæmaturia for the last four years. He had had repeated attacks of this, usually about once a month, but sometimes only once in four or five months. At these attacks he passed a tablespoonful of free blood at the first act of micturition. These attacks were accompanied by no pain.

Examination showed an irregular hard tumor in the left abdomen. This kidney tumor was removed by operation and an uninterrupted recovery was the result. The weight of this tumor was 1,730 grams, its surface was very irregular and nodular and destructive to the normal contour of the kidney and the nodules extended down around the ureters.

On excision the cut surface dripped blood from brownish areas, and the normal appearance of the kidney was replaced by soft yellowish tissue, which had regular brownish areas scattered throughout it, due to hæmorrhage. These areas were surrounded by bands of connective tissue. The pelvis of the kidneys was filled with a gelatinous mass. The microscopic section showed complete disappearance of the kidney tissue, which was replaced by a meshwork of capillaries, polygonal cells and fibrous tissue.

A characteristic area showed columns of clear polygonal cells lying in immediate apposition to the endothelium of the capillary sinus. In this case the only symptoms presented were the presence of the tumor, with occasional attacks of hæmaturia.

Drs. Stewart Wright and G. W. Ross spoke on chronic infective arthritis. The latter read a paper on the cause and treatment, and the former gave a lantern-slide demonstration, illustrating cases he had treated. The result of the treatment in the cases

presented by Dr. Wright was uniformly good. The improvement in one case, a patient forty-seven years of age, with arthritis of ten years' standing, and helpless during the last five years, was especially good. Recovery was sufficient to allow return of movement and ability to attend to the ordinary duties of life.

Another case where the knees were bent to a right angle, and so closely held together that only a small bandage could be inserted between them, had equally good results shown after treatment.

In another case knees were bent to a right angle and could not be straightened. In this instance there had been an infection of the tonsils and quinsy some years previous to the onset of the arthritis. These tonsils were removed and vaccine therapy used. In ten weeks after the operation the man was able to get on his feet. There was no force used in correcting the deformity except the slight pressure of a brace. Later, this patient was able to walk and take care of himself.

Referring to a fourth case, Dr. Wright said that it was generally thought that spurs on the heels were indicative of a gonorrhœal infection, but he finds in these spur cases that some other infection is usually the cause of the trouble.

In the series, the best results from combined local treatment and vaccine therapy were in cases of pyorrhœa alveolaris and other conditions of irritation in the mouth resulting from bad dental work, or other diseased conditions of the teeth.

In these cases of disease with discharge of pus from about the teeth even before the dentist does any work, the pyorrhœa clears up by the use of the vaccine. He showed also that in many cases of pain from flat feet, the cause is not the foot, but the arch of support being irritated from some distinct source of infection. In one case of a conductor unable to follow his occupation because of flat feet, he found a septic mouth with several abscesses about the teeth, all discharging pus. From the organisms found he had vaccine prepared, and on the third injection of the vaccine the man was free from pain in his feet and legs. The arch of the foot was drawn up by adhesive plaster and he was able to again go about his work, although no correction by operation had been attempted.

He reported several cases of this nature which showed marked improvement. In nearly all Dr. Wright's cases the teeth seemed to be the chief source of infection, and it was his opinion that many physicians in examining the tonsils failed to examine the teeth.

Summing up some 115 cases of pyorrhœa it was shown that

out of the 14 incipient cases 45% had rheumatic complications; out of 16 moderately advanced cases, 38% had rheumatic complications, and out of the 85 advanced cases, 53% had these rheumatic complications.

Removal of local infection and vaccine treatment was used in all these cases. In the incipient cases all were cured of both the rheumatism and the pyorrhœa, and in the 53% lot, representing the worst cases of arthritis deformans, 23% were cured, and all improved.

Another series of arthritic cases he showed were those arising from ptosis of the viscera, particularly the stomach and colon.

In reply to questions, he said wherever the focus of infection can be removed, then probably no vaccine is needed, but there was one type where it is needed, and that is pyorrhœa, and in this class of illness it must be remembered that there is pyorrhœa without pus and pyorrhœa with pus.

The clinical cases presented at the meeting were a tubercular ankle by Dr. Edmund King, and a report of a case of infantile hernia by Dr. G. Silverthorn.

Surgical Suggestions

In performing brisement forcé of a knee stiffened by prolonged immobilization in a splint or cast, the utmost caution should be observed. Under these conditions the bones are very brittle and a fracture is easily produced.—*American Journal of Surgery*.

Too often the fact is overlooked that, even in the absence of a visible scalp lesion, pediculosis capitis may cause painful swelling of the posterior glands of the neck, with or without cellulitis (resembling the swelling over an inflamed mastoid) and fever.—*American Journal of Surgery*.

Editorials

SIR RICKMAN GODLEE

No stranger has ever received a warmer welcome from the profession of Toronto than Sir Rickman John Godlee, the distinguished President of the Royal College of Surgeons of England, who spent a couple of days in this city on his way from London to Chicago, where he went to assist in the organization of a College of Surgeons for North America.

Sir Rickman and Lady Godlee were the guests of Dr. and Mrs. H. B. Anderson. Among the special functions in their honor were, a luncheon party given by Dr. Bruce; an afternoon At-Home in the Academy of Medicine by Dr. and Mrs. Herbert Hamilton; a dinner party in the evening by Dr. and Mrs. Anderson, all on Tuesday, November the 4th; a luncheon by Dr. and Mrs. W. A. Young at the Lambton Club, and a dinner at the Albany Club by the Aesculapian Club on November 5th.

Sir Rickman delivered a very interesting address under the auspices of the Academy of Medicine in the Physics Building on Tuesday evening. On Wednesday afternoon, November 5th, the honorary degree of LL.D. was conferred on him by President Falconer on behalf of the University of Toronto. Mr. I. H. Cameron, Professor of Surgery in the University, presented Sir Rickman Godlee, and in doing so delivered what the *Toronto Globe* aptly designated a "brilliantly" witty speech.

Sir Rickman thanked the members of Convocation for the honor they had conferred upon him, but declared that he felt this to be owing largely to the position he occupied and for that reason he took the

opportunity of thanking them also on behalf of the College of Surgeons of England.

Sir Rickman then delivered a very interesting address on the life and work of his uncle, Lord Lister. He referred to the wretched condition in hospitals in all parts of the world at the time Lister commenced his investigations and observations regarding antiseptics and asepsis. He then referred to Lister's student days and the early promise he showed of coming greatness. The speaker concluded by picturing the days at Edinburgh when Lister was in full swing of his antiseptic work. The address was delivered in a quiet conversational way, very much like Lord Lister's style of speaking, and was very highly appreciated by the large audience in the Convocation Hall.

Sir Rickman and Lady Godlee left Toronto for Chicago on the morning of November 6th, and with them went the kind regards and good wishes of all classes in the City of Toronto.

ONTARIO MEDICAL ASSOCIATION

In the year 1880 the following physicians of Toronto, Doctors Joseph Workman, C. W. Covernton, J. E. Graham, A. H. Wright, J. H. Burns and J. E. White, were appointed a committee to consider the advisability of organizing a Provincial Medical Association. This committee met at the house of Dr. J. E. Graham, October 7th, and decided on a certain line of action. Dr. Covernton was elected Chairman, and Dr. White, Secretary. Circular letters were sent to all local societies, and to many prominent physicians in all parts of Ontario asking for opinions respecting the proposed organization. A great many answers

were received. The different local societies and individual physicians all endorsed the scheme with one exception.

The Ottawa Medical Society considered "it inexpedient at the present time." Sir James Grant, whose opinion always carries great weight, thought that we should rather endeavor for a few years at least to throw all the life blood possible into the Dominion Association. Such views regarding the Canadian Medical Association were carefully considered both before and after sending out circulars. So far as could be learned there was a unanimous opinion among the profession outside of Ottawa that the establishment of such a society would not in any way injure the parent association.

At a meeting held in Toronto, February 21st, 1881, a committee from the Hamilton Medical Society consisting of Doctors Macdonald, Mullen, Rosebrugh, MacKelcan and Woolverton, met the Toronto committee. At that meeting it was definitely decided to establish the Ontario Medical Society, and hold its first meeting in June of that year, with Dr. Covernton as President and Dr. White as Secretary. The success of the association up to 1909 is well known, and all fears as to its injuring the Dominion Association were soon dispelled.

At the annual meeting held in Hamilton in 1908, a report was adopted, favoring an amalgamation between the Canadian and the Ontario Associations, and in 1910, at Toronto, a vote was taken and the union was sanctioned. Unfortunately these resolutions were passed at a time when a very small number of the members were present and the details were not generally understood by the majority who voted.

It is well known that there was great dissatisfac-

tion when it was discovered that the Ontario Medical Association could not hold its annual meeting in 1910.

There has been considerable friction between the executive committees of the two bodies since that time. The Ontario meeting has been ruled out twice in the past four years—in 1910 and again in 1913. Many consider the situation unsatisfactory and desire either a separation from the Dominion Association or some change which will improve the condition of things in the Ontario Association without injuring the older body.

We should like to have the matter discussed in a dispassionate way. We prefer not to discuss the details at present. No *snap verdict* is desired, and therefore, notice of motion, having separation in view, was given last year. One of the strongest men, and one of the *best fellows* in the North-West expressed the opinion at the last meeting of the Dominion Association in London, "that a proposal of separation was one that no 'decent' man should make." Now we venture to suggest that such expressions may do much harm, and certainly can do no good. We wish to see nothing but the kindest feeling and most pleasant relationship between the Dominion and the Ontario Medical Associations. It should be the aim of the two bodies to help each other without even the appearance of destroying the independence of either.

CLINICAL CLUB IN TORONTO GENERAL HOSPITAL

A Clinical and Pathological Club is being organized in the Toronto General Hospital. The rumor went abroad that the object was to form an ordinary

medical society to be conducted practically in opposition to other hospitals and as a rival of other medical societies. We are told there was no foundation for such a report. From what we have learned the object is really to form a club limited in membership to the staff of the hospital. It is expected the members will show patients and report cases, and will freely discuss each other's work. The club will be similar to those already in existence in most of the large hospitals of the world. There is a club of this sort in the Western Hospital, Toronto, which was founded many years ago, and it has accomplished much good in connection with that institution. We regret much that the matter was misunderstood for a short time, and are more than glad that there was no foundation for such a misunderstanding.

As physicians and also as citizens of Toronto it is pleasant to hear or read the words of Sir Rickman Godlee respecting this institution. In his address in Convocation Hall, after receiving the degree of LL.D., he stated that he had visited the Toronto General Hospital on the previous morning, and he declared that it was far the best hospital he had even seen, all the departments he had visited appearing to him most complete.

AMERICAN COLLEGE OF SURGEONS

The American College of Surgeons was founded in Washington a few months ago. The board of regents appointed at that time consisted of the following doctors: George E. Armstrong, Montreal; Geo. E. Brewer, New York; Herb. A. Bruce, Toronto; Fred C. Cotton, Boston; Geo. W. Crile, Cleveland; Jno. T. Finney, Baltimore; Wm. D. Haggard, Nash-

ville; Edw. Martin, Philadelphia; Franklin H. Martin, Chicago; Chas. D. Mayo, Rochester, Minn.; Robert E. McKechnie, Vancouver, B.C.; Jno. B. Murphy and Albert J. Ochsner, of Chicago; Harry M. Sherman, San Francisco; Chas. F. Stokes, Washington.

The following officers were elected: Dr. Finney, President; Dr. Chipman, of Montreal, First Vice-President; Dr. Watson, New Orleans, Second Vice-President; Dr. Franklin Martin, Chicago, General Secretary, and Dr. Ochsner, Chicago, Treasurer.

Some of the founders who were attending the International Medical Congress requested Sir Rickman Godlee to come to Chicago in November to assist in completing the organization.

One of the first questions asked at the preliminary meeting in Washington was, whether the club would positively exclude those who were suspected of giving or paying commissions in any form whatever. The President declared that no one would be admitted who was suspected of being guilty of this pernicious practice. We are told by the Committee on Credentials that this declaration was received with universal and most enthusiastic applause. It did not seem possible that many men who would otherwise be eligible could belong to the class of fee splitters, but the fact that the matter was so much emphasized has induced the Committee on Credentials to prepare the following declaration, which will be filed in connection with the credentials of each Fellow.

I hereby promise upon my honor as a just man that I will, so long as I am a Fellow of the American College of Surgeons, practice no division of fees in any form, neither will I collect fees for others referring patients to me, nor will I permit them to col-

lect my fees for me, nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation, neither will I in any way directly or indirectly compensate any one referring patients to me, nor will I utilize any man as an assistant as a subterfuge for this purpose.

The following surgeons of Ontario have been elected Fellows: Mr. I. H. Cameron, Doctors Primrose, Bruce, Bingham, Fred Starr, Clarence Starr, John Malloch, Walter McKeown, F. A. Cleland, R. A. Reeve, Stanley Ryerson, Norman Shenstone, F. W. Marlow, Edmund E. King, Silverthorne, Hendry, Wishart, Geoffrey Boyd, W. E. Gallie, R. J. Gibson, W. W. Jones, J. A. McCollum, B. E. McKenzie, A. S. Moorhead, J. A. Roberts, Wallace A. Scott, Hadley Williams, John Wishart, Arthur B. Wright.

SERIOUS ILLNESS AND INTOXICATION

What shall the hospital authorities do when a drunken man is brought in for treatment? The rule in a large proportion of hospitals is not to admit him. Supposing he is brought in with evidently a fracture of the skull and alcohol can be detected on his breath, should he be admitted or should he be sent out to die?

The general opinion the world over so far as we know is that he should be admitted. To turn him out to die is so cruel and inhuman, that the public will not submit to any such rule. The subject is a very old one and surrounded by many difficulties. One of our brightest physicians, who was the first Canadian Resident Interne in St. Thomas' Hospital, London, England, got into very serious trouble because he refused to admit a patient who was certainly intoxicated, but was at the same time suffering from some severe

injury of the skull which caused his death. There was an inquest and the jury returned a verdict censuring the hospital in the strongest terms. Our Canadian friend was seriously blamed by the hospital authorities, and if his great ability and sterling worth had not been recognized he would certainly have been dismissed.

On the evening of November 6th a man was arrested for supposed drunkenness and brought to the Agnes Street Police Station, Toronto. The officers in the station soon recognized that the man was very ill, and perhaps in a dying condition, and consequently they brought him to the General Hospital. The House Physician in charge admitted that the man was in need of medical attendance, but owing to a certain order in existence that intoxicated persons should not be admitted, he turned him over to the police again.

The man was brought back to the cells and died shortly after from poison taken with suicidal intent.

We are told by a Toronto newspaper that according to the statement of Dr. C. K. Clark, the authorities of the General Hospital have decided that it has no room for drunken men, even if they are in a dying condition. We have no idea that this statement is correct. No man knowing Dr. Clark will believe that he will turn any dying man out of the hospital, drunk or sober.

It is very difficult for a hospital to lay down any rules that will govern all cases, and it is a very dangerous thing to place stringent rules in this regard in the hands of inexperienced young men, especially when such rules may be the means of turning dying men out of doors. The difficulties in some cases are very great. How can one make a differential diagnosis between concussion of the brain and drunken-

ness? The odor of alcohol from the breath does not exclude serious injury of the head, nor does it in itself establish drunkenness. In all cases of doubt—the man drunk or sober—who may be seriously ill should be retained for a time at least. We are not in this particular case attaching any blame to anybody, but we are referring to the difficulties that will arise in any case of this sort in any hospital.

The following is the verdict of the jury at the Coroner's inquest: That Abraham Lincoln came to his death on the 6th of November in the Agnes Street Police Station from cocaine or some other poisoning. We give credit to the officer in charge of the Agnes Street Station for hurrying deceased to the hospital for the treatment received at that institution, and think that he should have been more thoroughly examined and admitted to the institution, as he was evidently in a dying condition.

POISONING BY WOOD ALCOHOL

There have been so many cases of unnecessary blindness and death from poisoning by wood alcohol in the United States that an organization has been formed, which is known as the Committee for the Prevention of Blindness in the State of New York. Twelve persons were blinded and three killed by wood alcohol during 1912 in New York City alone.

Formerly wood alcohol was a dark, bad-smelling, bad-tasting fluid, which no one was tempted to drink. By modern processes, however, these—the color, odor and taste, are removed. This purified article is sometimes sold by druggists without a poison label as required by law, under various trade names, such as Columbia spirits, Eagle spirits, Lion d'or, Colonial

spirits, Hasting's spirits and Acetone alcohol. Sometimes unscrupulous liquor dealers refill whisky bottles with cheap drinks adulterated with wood alcohol, and sell them to ignorant customers.

We are indebted to Miss Carolyn C. Van Blarcom, the Executive Secretary of the committee aforementioned, for much information on the subject. It would appear that the use of this poison as an adulterant is steadily growing, in fact it is feared that such adulteration is in its infancy and is really growing very rapidly.

We believe that the dangers from wood alcohol are better appreciated in this Province than in the State of New York. Under our Pharmacy Act, which is fairly well enforced, druggists, painters and grocers, who are the chief retailers of the wood alcohol, are compelled to use a label containing the following words, "Wood Alcohol, Poison," using black letters of a certain size.

We occasionally see something in the daily papers about the dangers of wood alcohol, but we find that up to the present time there has been no report in the Ontario Registrar General's Office of blindness or death from drinking or inhaling this poison.

We should therefore take warning from the serious condition of things in New York State and redouble our vigilance in regard to the field of adulteration.

THE PASTEUR INSTITUTE

About twenty-five years ago a young shepherd, Jupille by name, was attending a flock of sheep in the neighborhood of the Jura Mountains, when he saw a large and ferocious dog rushing upon a crowd of

children. Believing the dog to be mad he hurled himself between the children and the dog and seized the animal, and a fierce struggle took place, when finally, though bitten and bitten again and again, Jupille managed to throw the dog down and killed it. At that time there was supposed to be no cure for rabies. It happened, however, that certain people in the neighborhood had heard of the distinguished chemist named Pasteur, who had cured a little Alsatian lad who was afflicted with rabies. The boy was accordingly sent to Paris. The heroic character of his struggle with the dog had aroused the keenest interest in all parts of France. When after a few weeks the boy left the hospital the people were tremendously enthusiastic and held the great scientist as a genius.

The Pasteur Institute was founded on November 14th, 1888. On the 14th of November of this year there was a celebration in France shared by scientists and the public of the twenty-fifth anniversary.

Standing in front of a group of buildings which covers thirty-five acres is a statue of a young shepherd gripping with a mad dog. The young shepherd is the boy Jupille. The same boy, now a man of about forty, is the janitor of the Institute.

In the *Toronto Mail and Empire* of November 13th, there is a very interesting article on the subject from which we got the facts mentioned regarding the boy shepherd. The article also contains some interesting information as to the great good accomplished by Pasteur in many respect. Before Pasteur's time spontaneous generation was considered the cause of fermentation. Pasteur found out that it was caused by atmospheric germs.

Shortly after this Pasteur was requested to investigate a disease that threatened the destruction of the

silk industry in France. He soon discovered a cure and re-established the great industry. He also, as is well known, discovered a cure for chicken cholera, and for anthrax.

DISCARDED WARSHIPS AS NATIONAL SANITARIUMS

A good many years ago Boston used old ferry boats simply fitted up for sending infants and young children out of the heat and dust of the city into the cool pure air of the sea during the hottest summer months. Shortly after New York followed Boston's good example. Italy was the first to conceive the idea of using discarded battleships for a similar purpose. The secretary of the Italian Navy recently decided that old warships should be converted into sanitariums for tuberculous children. Drs. Arthur Jacobson, A. Jacobi and S. A. Knoff, of New York, advocated a similar policy. Dr. Knoff said there was no use in spending money on expensive buildings on shore while certain discarded government ships were lying idle or being sold to shipbreakers at scrap iron prices. To equip one of them for consumptives would cost much less than a building for the same number of persons on shore, and such floating sanitariums could be moved into appropriate summer or winter quarters at will.

The *British Medical Journal* urges the First Lord of the Admiralty to adopt Dr. Knoff's suggestion, inasmuch as his many careful inspections must have taught him the capabilities of many of our discarded cruisers to aid thus in the peaceful warfare against the raids and invasions of the tubercle bacillus.

The life of a modern cruiser or battleship as an active agent of warfare is comparatively short. The vessel ceases to be effective as a first-class fighting machine long before it has decayed as a sea-going ship.

The Journal proposes that the following places be selected for such floating sanitariums—the mouth of the Clyde for the consumptives of Glasgow; the Forth Estuary for those of Edinburgh; the Medway for those of London; Dover for those of the southern counties; Dartmouth for those of the west, etc. The establishment of the floating sanitarium would render the inland institutions valuable for a larger number of those who have no liking for the sea.

CLINICAL TEACHING AND RESEARCH

A million and a half dollars has been given by the (Rockefeller) General Educational Board as an endowment to encourage clinical teaching and research in the departments of medicine, surgery and pædiatrics. We are told by the *Lancet-Clinic* that the endowment is given to the Johns Hopkins Medical School in recognition of Dr. Welch's services to medical education and because this school was considered best equipped to put the new scheme into practice. The professors of these departments will be given a salary of at least \$10,000, and in addition will be assisted by staffs paid proportionately. Professors and their staffs will be paid sufficient to permit them to devote all their time to teaching and research, and will not be allowed to accept personal fees for attendance or consultation.

Various obligations may prevent many from accepting these positions. It is stated that Dr. Barker is not sure that he can accept, being too busy in outside practice.

The General Educational Board intimated in making the gift to the Johns Hopkins that there might be other similar donations made to other schools which were sufficiently well equipped and could afford evidence of success in maintaining a high grade of work. •

We hope that the scientists and clinicians to whom this work will be entrusted will be endowed with common sense and good judgment in as much as science and sense do not always travel together.

Ontario Medical Association

The next annual meeting of the Ontario Medical Association will be held in Toronto, on May 26th, 27th and 28th, 1914. The officers have decided to adopt the plan so successfully followed in 1912, that is, to have as much of a clinical meeting as possible. With the large hospitals in Toronto and the abundant clinical material at hand, the sessions should be most interesting. Prominent men from England and the United States will be present to give addresses and take part in the discussions. The officers are determined to have the largest meeting on record.

NEWS ITEMS

At the Clinical Congress of Surgeons of North America, held in Chicago, November 9th-16th, Dr. John B. Murphy, of Chicago, was chosen president for the coming year. London, England, was chosen as the place of meeting for the year 1914, on the invitation of Sir Rickman Godlee, on behalf of the Royal College of Surgeons, Sir Arbuthnot Lane and Dr. Herbert Patterson. Dr. George E. Armstrong, Montreal, was elected vice-president. The other officers of last year were re-elected.

The Canadian Medical Association

It will be of interest to the profession generally to know that the next meeting of the association is to be held in St. John, N.B.

It will extend over four days—the 7th, 8th, 9th and 10th of July next.

St. John has excellent hotel accommodation and ideal weather in the summer. The thermometer is rarely above 70°, and the nights are refreshingly cool and invigorating. Preparations for the meeting are already well under way. The profession of the city is working as a unit to make it one of the most successful ever held by this association.

Medical men throughout Canada and elsewhere, contemplating a holiday in which pleasure and profit may be combined, cannot do better than arrange to go to St. John next July.

Medical Examinations

The results of the first examination under the new Canadian Medical Act are announced by Dr. R. W. Powell, registrar. Seventy-one candidates presented themselves at the examination. Forty-four were successful, eight were referred back to the council, having failed in not more than two subjects, and nineteen were rejected. Following is a list of the successful candidates: L. A. Aubin, Rawdon, Que.; I. F. Belanger, Quebec, Que.; I. A. Bergeron, St. Antoine de Tilly, Que.; C. R. Bourne, Montreal; C. E. Brown, London, Ont.; I. Cumming, Ottawa, Ont.; A. P. Davies, Hull, Que.; A. S. Duncan, London, Ont.; J. B. Gallagher, Bath, N.B.; J. F. Grant, Montreal; E. H. Gray, Montreal; W. J. Hepburn, Montreal; L. G. Houle, Bras d'Apic, Que.; W. G. Hutton, J. J. Irvén, J. A. H. Joyal,

R. F. Kelso, Montreal; J. H. G. Lacasse, St. Genevieve de Pierrefonds, Que.; J. L. Lamy, St. Flore, Que.; A. Leger, Montreal; A. F. Macaulay, London, Ont.; F. H. Mackay, Montreal; I. F. MacKnight, Tamworth, Ont.; L. W. MacNutt, Ottawa, Ont.; A. A. Martin, Pierce, Neb.; A. J. McCalla, St. Catharines, Ont.; W. G. Morris, Vancouver, B.C.; R. L. Morrison, Barrie, Ont.; P. Nase, Verdun, Que.; J. G. Phillips, Labelle, Que.; W. S. Pickup, Fort William, Ont.; J. L. Poirien, Craigmont, Ont.; L. K. Poyntz, Tavistock, Ont.; A. L. Raymond, Williamstown, Ont.; A. Stewart, Ottawa, Ont.; J. W. Sutherland, F. S. Swaine, Montreal; A. T. Turner, Bowden, Alta.; E. J. O. Wolcott, Montreal; L. W. Walker, Hanover, Ont.; J. T. Wall, Kansas City, Mo.; W. G. Wallace, Metcalfe, Ont.; H. C. Workman, Kingston, Ont.

Special Feature Number

The *American Journal of Surgery* will present in January an issue of their journal devoted exclusively to Fractures and their treatment. The following subjects will be presented by acknowledged authorities in this special branch of surgical work:

"Astragalus Injuries," by F. J. Cotton, M.D., Boston, Mass.

"Diagnosis of Fracture," by Lewis A. Stimson, M.D., New York.

"Position in the Treatment of Juxtaepiphyseal Fractures at the Hip and Shoulder," by Fred. Albee, M.D., New York.

"A Splint for Maintaining Nail Extension During Transport," by John C. A. Gerster, M.D., New York.

"Fracture of the Skull: Roentgen Ray as an Aid in Its Diagnosis," by W. H. Lockett, M.D., New York.

"Vicious Union," by James K. Young, M.D., Philadelphia, Pa.

"The Immediate and Remote Results of Fractures of the Skull and Spine," by Charles Elsberg, M.D., New York.

"Conservation in the Treatment of Fractures," by William L. Estes, M.D., So. Bethlehem, Pa.

"Some Phases of Fracture Treatment as Based on Hospital Experience," by E. S. Van Duyn, M.D., Syracuse, N.Y.

"The Treatment of Fractures," by E. P. Magruder, M.D., Washington, D.C.

Personals

Dr. Alex. D. McKelvey has located at 193 Bloor Street East, and will treat ear, nose and throat.

Dr. J. Gordon Gallie begs to announce to the profession that he has commenced practice at 143 College Street, and that he is restricting his attention to obstetrics.

Dr. N. M. McNeil, of Prince Rupert, B.C., has gone to the old country, where he will join Mrs. McNeil, who has been visiting her parents for the past few months. While away Dr. McNeil will do post-graduate work at some of the larger hospitals.

The following are the officers of the Calgary Medical Society for the coming year: President, Dr. T. J. Costello; Vice-President, Dr. G. R. Johnson; Secretary, Dr. Roache; Executive Committee, Drs. Madden, McKeachan and H. Johnson.

The Department of Agriculture of the Province of Saskatchewan has inaugurated a course of scientific agriculture for farmers.

Dr. J. W. MacNeill, formerly at Hanley, Sask., has been appointed Superintendent of the Provincial Asylum at Battleford, Sask.

We learn from the *Western Medical News* that Dr. Vertueil, of Vancouver, B.C., had a small piece of radium, which cost about \$3,500, stolen from his surgery. Some time after the stolen property was returned by mail. It is supposed that the thief, having read of the deadly effects of radium, became frightened and decided to return it.

Hon. Dr. W. H. Montague has been appointed Minister of Public Works for Manitoba. Dr. Montague was educated at the Toronto School of Medicine, became M.D. Victoria University in 1882, and L.R.C.P. (Edin.), the same year. After practising a few years he went into politics and represented Haldimand in the House of Commons for several parliaments. He was a Minister in various successive governments. During the last few years he was engaged in business in Winnipeg. He possesses great ability and is one of the best platform speakers in Canada.

Obituary

CHARLES STEWART MURRAY, M.D., L.R.C.S., Edin.

Dr. C. S. Murray, of 61 Highlands Avenue, Toronto, died at his home after an illness from pneumonia for three weeks, November 6th, aged 63. He received his medical education at Trinity Medical College, and graduated M.D. in 1873. Shortly after graduating he went abroad and did post-graduate work, chiefly in London and Edinburgh. He entered the medical service on the White Star Line of steamers in 1877, and was a surgeon on that line for about seven years. After giving up his White Star connection, he practised for a few years at Newark, N.J. He then removed to Toronto, where he engaged in practice for a short time. On the death of his father, Mr. W. A. Murray, the founder of the well-known King Street store, he gave up the practice of medicine and devoted himself to his business interests.

In addition to his regular work he had two hobbies—painting, both with water colors and oils, and carpentry, at which he was quite an expert.

He was one of the most congenial and companionable men we have ever met, and was very much beloved by his great host of intimate friends.

Book Reviews

Surgical Operations, a handbook for Students and Practitioners, by PROF. FRIEDRICH PELS-LEUDEN, Chief Surgeon to the University Surgical Clinic and Chief of the University Surgical Polyclinic in the Royal Charity Hospital of Berlin. Only authorized English translation, by Faxton E. Gardner, M.D., New York, with six hundred and sixty-eight illustrations. New York: Rebman Company, 1123 Broadway.

Although the author disclaims any intention to have this book regarded as a work on "Operative Surgery," still the thoroughness and exactness with which it is written cannot help but make one regard it as quite the equal of many systems of operative surgery one has seen. The endeavor has been made, and successfully, to be brief without omitting anything important. Indications for operation are clearly laid down, and particular attention is paid to post-operative treatment.

After preliminary chapters on Antiseptic and Aseptic Technique and Anæsthesia, the surgery of the various regions of the body is taken up in detail. Illustrations are freely used, and what is more, they all teach something, and are not merely works of art.

The bringing of the best German surgery to the hand of the Canadian or American surgeon cannot fail to have an influence for good. The book is well translated and well published, and we bespeak for it a hearty reception by the surgical profession.

Blood-Pressure, From the Clinical Standpoint. By FRANCIS ASHLEY FAUGHT, M.D., of the Medico-Chirurgical College, Philadelphia. Octavo of 281 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Price, \$3.00 net. Sole Canadian Agents, The J. F. Hartz Co., Limited, Toronto.

Written by one who was a pioneer in the field of blood-pressure observations, this book carries a weight of authority which all must acknowledge. Beginning with a short historical resumé the author takes up the technique of sphygmomanometry,

and the physiology of the circulation, and the various external influences which affect blood-pressure.

Blood-pressure observations in the various diseases are then taken up in detail, also its relation to surgical and obstetrical practice. The work concludes with the action of various drug-stuffs on the circulation.

Numerous diagrams and charts are used throughout. The book is well written and not too bulky. We consider it a valuable addition to medical literature.

International Clinics—A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pædiatrics, obstetrics, gynæcology, orthopædics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world; edited by Henry W. Cattell, A.M., M.D., Philadelphia. Volumes II and III. Twenty-third series, 1913. Philadelphia and London: J. B. Lippincott Company.

Both these volumes are better than usual. They contain bright, readable articles, on all kinds of interesting subjects, for the most part by men who are making progress in the line in which they are interested. The "clinics" have come to our desk for so long that we always look forward to them, and are seldom disappointed. No matter what his line of work may be, the physician will always find some article of interest and value. The binding, too, is such as to make the book worthy of a place in the library.

Industrial Poisoning (From Fumes, Gases and Poisons of Manufacturing Processes). By DR. J. RAMBOUSEK, Professor of Factory Hygiene, and Chief State Health Officer, Prague. Translated and edited by Thomas M. Legge, M.D., D.P.H., H.M., Medical Inspector of Factories, Joint author of "Lead Poisoning and Lead Absorption." With illustrations. Edward Arnold: London, 1913.

In one most readable volume the author has condensed material which is usually found to take up a whole system.

This is done, too, without omitting anything which could be regarded as important in this connection. The work is taken up in three sections. In Part I. is found a description of the Industries and Processes attended with risk of poisoning, and the incidence of much poisoning. In Part II. the symptoms and treatment of Industrial Poisoning is considered; while in Part III. we find Preventive Measures against Industrial Poisoning. Naturally certain portions overlap others. This, however, is the reverse of being a detriment, for it only serves to emphasize the important aspects of the problem of Industrial Poisoning. As our manufacturing centres increase in size and extent, many of these problems, which as yet give us perhaps little concern, are bound to increase. Nowadays we are all interested in preventive medicine, and there is no limit to the scope of the work of preventing disease, as it affects particular industries. This book is a most timely one and is deserving of close study by those interested in public health problems.

Messrs. Rebman, Publishers, New York take pleasure in informing the profession that the International Medical Congress, held during the first week in August, 1913, has awarded to them the gold medal for the best medical publications.

Too thorough purging in preparation for a laparotomy contributes to post-operative distress. A simple laxative or an enema is sufficient for most cases, and even these can often be dispensed with. Urgent cases operated upon without any preparation usually do as well, as far as the bowels are concerned, as those previously purged.—*American Journal of Surgery*.

Selections

Example of Freud an Analysis

Enderlen (*Deut. Med. Woch.*) expresses his belief that psychoanalysis is a joke, and states that neurologists look upon it with a pitying smile. It is, therefore, astounding to see such an enormous literature spring up about it, giving a false idea of its worth. A counter propaganda should at once be instituted against it. He relates the following case: A young woman who had been subject to attacks of aphonia, had consulted many physicians, whose diagnoses, however differently stated, all pointed to a neurogenic source. In despair at the successive failures the girl turned to a psychoanalyst, who claimed that the condition was purely mental. After months of supervision the patient was pronounced cured and a fee of 1,300 marks cheerfully paid. Although her "mental state had become normal," there were much more than vestiges of the old trouble in existence. In fact, to outsiders the girl appeared to be worse. It was merely a case of inventing a morbid state, in fact, of calling the patient mentally unsound and then after months of treatment pronouncing her mentally sound. The parents, rejoicing over their daughter's returning sanity, gave little attention to the intermittent aphonia.—*N. Y. Medical Record*.

Poison from Aniline Dyes

To the several cases of poisoning from aniline black on shoes that have been reported, Creyz adds two (*Journ. de Méd. de Bordeaux*, August 3rd, 1913). In both cases the shoes were yellow, freshly dyed black. The common signs of poisoning are giddiness, syncope, or collapse. In one case there was pronounced cyanosis with some degree of melanuria; in the second, in addition to the cyanosis, there were symptoms of collapse, respiration 42, rapid small pulse, and so on. M. Creyz reports also a similar case of poisoning from stockings dyed an aniline green. Attacks of giddiness and pallor occurred regularly five to six hours after putting on the green stockings. When the attack came on, the patient would go to bed till the next day, taking off her stockings and thus stopping any further symptoms. For some time she hoped these were the symptoms of a much-desired pregnancy, but the true explanation was forced upon her—"she burnt her green stockings with regret." As a rule, the symptoms disappear in twenty-four hours; no fatal case has been recorded. Creyz points to the presence of the phenyl radical in aniline, and observes that

many individuals are especially susceptible to carbolic acid. Besides idiosyncrasy there is often some peculiarly favorable condition for absorption—either the dye is freshly applied or a large amount has been used. At all events, in some sudden and mysterious cases of collapse the injunction is: “*Cherchez la chausure.*”—*The Universal Medical Record.*

Treatment of Pertussis

Roux (*Prov. méd.*) deprecates the routine use of antispasmodics in this affection. In cases without temperature and with no bronchial symptoms or expectoration the classical antispasmodics may be prudently employed, preferably half an hour before meals and before bedtime. But if the temperature rises and bronchial signs appear this treatment must be stopped and expectorant medication adopted. The so-called specifics should be entirely rejected since they paralyze the cough reflex and dull the bronchial muscle, thereby causing retention of sputum and toxic products. Antispasmodics may be associated with expectorants to some extent, but simply with a view to moderating the violence of the cough, calming the nervous system and checking vomiting. The author recommends the following formulæ:

Expectorant.

Syrup of ipecacuanha	..	..	..	5 to 10 grams.
Syrup of polygala	..	..	..	40 to 45 „
Oxymel scillae	..	..	..	10 to 20 „
Benzoate of soda	..	..	..	2 to 4 „
Infusion of limes	..	..	..	to 300 c.cm.

Antispasmodic.

Bromide of strontium	..	..	..	1 to 3 grams.
Syrup of codeine	..	..	..	10 to 45 „
Syrup of belladonna	..	..	..	5 to 20 „
Tincture of aconite	..	..	..	5 to 20 drops.

A teaspoonful, dessertspoonful or tablespoonful according to age. The doses must be adapted to the conditions, but in any case the expectorants should predominate. In addition mustard leaves should be applied from one to three times a day. In cases complicated by broncho-pneumonia antispasmodics should be entirely suppressed and the patient given expectorants, sinapisms and especially hot baths at 38° raised progressively to 39° and 40°.—*British Medical Journal.*

It's a Settled Conviction

with many physicians, based on accurate observation and scientific deduction, that coffee, as a routine daily beverage, causes more or less serious disturbance in the nervous system of many persons.

The amount and degree of this disturbance may not be appreciable for a time in some who are able—perhaps for years—to withstand the over-stimulation of the nerves and heart induced by the regular ingestion of **CAFFEIN**—the coffee drug.

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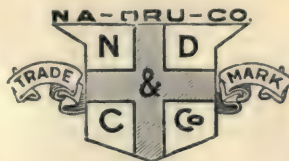
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Cardiac Strain and Anaesthesia

It not infrequently happens that when a drug is strongly indicated to meet a certain condition a contraindication exists which forbids its employment. This also holds true in regard to remedial measures other than drugs, and undoubtedly is a factor of importance in connection with a number of surgical procedures. Surgeons have long since learned that a heart which has suffered from degenerative change, or kidneys which have suffered as a result of prolonged disease, stand in the way of operative procedure. We have often thought that certain of the positions in which patients were put during operation must exercise a powerful influence upon the circulation, and we are therefore much interested in the contribution which is made to the *Journal of the American Medical Association*, in which Gann and Mann have studied the effect of the Trendelenburg posture. They note that the head-down position is badly borne by patients with cardiac disease or by those who have obstruction of the breathing. All those who have worked with animals in a laboratory know that local changes can be produced in the circulation by placing the animal in a position which is at variance with its normal posture in life. Thus, it has been noted that rabbits held in a perpendicular position may be killed in as short a space of time as fifteen minutes by bleeding to death into their splanchnic veins, and although Hill showed that a normal animal can be placed in the head-down position for a long time without ill effects, Gann and Mann found that this was not the case if the animal was anaesthetized with ether. They give tracings which illustrate the extraordinary effect produced upon the action of the heart and respiration by changes in posture.

As a result of their investigations Gann and Mann believe that there are three classes of patients which are liable to be injured in the course of anaesthesia by over-distention of the heart, namely, those with a well-developed muscular system, those who are alcoholic, and those who have circulatory disease. Some of the danger may be put aside by the use of morphine and atropine before the operation. They also conclude that although the Trendelenburg position is harmless for a patient with a normal heart, provided the respiration is free and unobstructed, it is dangerous if the circulation is feeble or the respiration is impaired, and if this posture is essential the greatest care should be exercised in inducing it. In other words, the patient should be brought into the Trendelenburg posture gradually and not suddenly, as is so often done by the tipping of the special table de-



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signed for this purpose. Doubtless atropine is advantageous in these patients since it tends to maintain circulatory equilibrium by its influence upon the splanchnic vessels.—*Therapeutic Gazette*.

In simple gas distention, with discomfort or actual pain, within the first thirty-six hours after laparotomy very often the most satisfactory treatment is a hypodermatic injection of morphine. A rectal injection of peppermint water may also be needed. Purges should be avoided. Eserine may help to get rid of the gas, but it adds to the pain.—*American Journal of Surgery*.

The Excretion of Formalin in the Urine of Children and in Infants Taking Hexamethylenamin

Talbot and Sisson write in the *Boston Medical and Surgical Journal* on this subject. From their observations they feel that they can safely conclude:

1. That all children are capable of breaking down hexamethylenamin.

2. That they all consequently excrete formaldehyde.

3. That relatively large doses are often necessary before the excretion of formaldehyde takes place.

4. That, as pointed out by Jordan; "the more acid the urine the greater is the decomposition of urotropin and excretion of formaldehyde." Since it has been shown by other observers that the antiseptic power of urotropin is dependent, not upon the hexamethylenamin, but upon the presence of free formaldehyde, they can further conclude:

5. That urotropin should not be given with drugs that cause the urine to turn alkaline.

6. Finally, they believe that to insure the efficacy of the drug, specimens of urine after the administration of hexamethylenamin should always be examined for the presence of free formaldehyde.—*Therapeutic Gazette*.



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Miscellaneous.

A Familiar Form of Cystitis

There is a form of cystitis quite familiar to the general practitioner. It occurs in females, old and young, with apparently normal pelvic organs, generally after a chilling. There is an abrupt onset, with frequent micturition, tenesmus, and perhaps dysuria. The acid urine contains the infecting organism, usually a colon bacillus, pus, and often blood. Rest in bed, local warmth, light diet, free catharsis and sanmetto are the measures employed, and in a few days the severity of the attack subsides, and generally in two or three weeks the patients are as well as ever.

Observations on Gastric Disease

C. L. Scudder (*Boston Medical and Surgical Journal*), presents an analysis of two hundred cases of gastric disease that have been under his care. He is impressed by the part which syphilis plays in the etiology of chronic stomach disease. Syphilis of the stomach is more common than generally has been supposed. It is a tertiary manifestation. A multiplicity of lesions are possible. These lesions may be a gummatous tumor, or ulcerations in the stomach wall involving the mucosa, or adhesions extending from the stomach to neighboring organs. Syphilis of the central nervous system with symptoms of gastric crises may confuse the picture, when only the spinal fluid will show evidences of the infection. The symptoms of syphilis of the stomach may resemble chronic ulcer—or even cancer—differing from ordinary ulcer in their lack of regularity and persistence. In all of the author's suspected syphilitic cases there have been many peritoneal adhesions. He has made mistakes in diagnosis in the following cases: The diagnosis of gastric ulcer in twelve cases proved to be adhesions in one case; no pathology in three cases; syphilis, but not of the stomach, in one case; leiomyoma in one case, and appendicitis in six cases. A diagnosis of duodenal ulcer in three cases proved to be Lane's kink and appendicitis in one case, sarcoma of the stomach in another, and appendicitis in the third. A diagnosis of carcinoma of the stomach in two cases proved to be gastric ulcer in one case and duodenal ulcer in the other case. In one doubtful case a diagnosis of stomach, gall-bladder,



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or appendix disturbance proved to have no visible pathology. The author has been most assisted to a diagnosis of chronic ulcer by a carefully elicited story of the onset and course of the symptoms. Definite pain in the stomach region has been the most constant symptom. The hunger pain, so-called by Moynihan, has been found to be associated so frequently with ulcer on the gastric side of the pylorus that the author is inclined to think that it is not diagnostic of duodenal ulcer. As regards the surgical treatment of cancer of the stomach it is pointed out that gastroenterostomy is a poor palliative measure. The length of life secured is but about four months. It is better, if practicable, to resect as a palliative measure, and rid the patient of a sloughing mass of cancer, not being content simply with a posterior or anterior gastroenterostomy. The length of life is longer after resection than after gastroenterostomy.—*N. Y. Medical Record*.

Marked post-operative abdominal distention, with nausea, belching and increasing prostration are strongly suggestive of acute dilatation of the stomach. The stomach tube and lavage are indicated as they are also in repeated post-operative vomiting.—*American Journal of Surgery*.

The Diagnosis and Importance of Arrhythmia

Five varieties of irregularity of the pulse are recognized by Staehelin (*Korrespondenz Blatt f. Schweiz. Aerzte*, 1913, No. 11):—(1) Arrhythmia respiratoria. The heart usually beats more rapidly during deep inspiration and more slowly in deep expiration. The same phenomenon occurs in very nervous patients in quiet breathing. (2) Extra-systole, frequently occurring in extreme old age and in those who take coffee, tobacco (and tea) to excess, in pulmonary inflammations, influenza, and other infectious diseases; it is then a sign that the heart muscle is involved. (3) Adams-Stokes phenomenon, frequently in association with loss of consciousness and cramps. (4) Arrhythmia perpetua, which having once occurred usually does not disappear; this usually denotes the end result of valvular disease and affection of the cardiac muscle. (5) Pulsans alternans. The beats are alternately strong and weak, especially in chronic nephritis, and is always a sign of advanced exhaustion of the heart.—*The Universal Medical Record*.

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Severe Criticism of Medical Study for Women

In the course of some public lectures on the higher education of women, Professor Hochenegg, the director of the first surgical clinic in Vienna, gave publicity to his disappointment with the women who took up the medical career in this country. He severely criticized the lack of a sense of responsibility as well as the small amount of presence of mind at the command of female doctors. He is, therefore, of the opinion that there is no justification for females taking up this particular branch of study, and he pointed out that hitherto, although there are female doctors all over the world, not a single woman has been able to give to medical science anything really original or very important, and medicine has made large progress during the last twenty-five years only through men. Naturally these statements aroused a storm of indignant protests on the part of the doctors of the "weaker sex" in this country. They justly contended that in hospitals female doctors had the same duties and responsibilities as their masculine colleagues, and they pointed out the examples of other countries, which they think show the fallacy of the professor's assertion. Nevertheless, they were not able to prove that female genius has made its impression on the progress of medicine, and this fact is cited as proving that there is something in Hochenegg's bitter words worth thinking about.—*Vienna Letter to J.A.M.A.*

The best routine management of the bowels after operation is to let them alone. An enema on the third or fourth day is usually all that is needed.—*American Journal of Surgery.*

The Problem of Surgical Shock

A topic which has frequently been expounded in this journal, is returned to on the present occasion because of the very excellent article by Rendle Short in the *British Journal of Surgery*, to which we extend a very cordial greeting. Short explains the contending theories and the arguments against them, and it is with the latter we propose to deal.

The Crile-Mummery theory of exhaustion of the vasomotor centre is opposed by two facts: the arteries are contracted in

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shock, not dilated, as the theory holds, and the vasomotor centre is not exhausted. The former has been powerfully argued by Malcolm. The pulse is small, the skin pale, bleeding is scanty, and warmth is more helpful to the patient than cold. The renal vessels must be contracted because there is anuria. Seelig and Lyon have pointed out that the retinal vessels are contracted to a third of their normal size.

That the vasomotor centre is not exhausted is proved by experiments carried out by Seelig and Lyon, and by Porter and Quinby. The latter stimulated the central end of the sciatic nerve in cats for four hours without obtaining a fall of blood pressure.

It appears that it is not the centre which is exhausted, but the pressor afferent nerves.

The theory of acapnia put forward by Yandell Henderson is not well known in England. The excessive breathing causes a loss of carbon dioxide from the blood.

The objections are three in number. Hyperpnoia due to painful stimuli appears to be an inadequate cause for the marked acapnia necessary. Fatal shock may come on in half an hour. Shock would be impossible if Clover's inhaler were used throughout. Rendle Short himself has been unable to find any marked difference in the patients suffering from shock or allied conditions. Thirdly, Henderson's view that the patient dies from lack of oxygen is inconsistent with Haldane's observation that deficiency of oxygen acts as a stimulus to the centre which is governed not by CO_2 , but by the quantity of oxygen in the blood.

Boise has suggested that shock is due to cardiac spasm, and recommends the use of *veratrum viride*.

His theory takes no account of depressor nerve fibres, and Crile, Mummery and Henderson all agree that the heart has not failed seriously in shock. And *veratrum viride* is a powerful cardiac depressant.

Meltzer holds that shock is due to inhibition of the functions of all organs, beginning with the less vital and spreading to the more vital. He gives no explanation of how the inhibition is produced, and his conjecture is really an abandonment of the problem.

These theories do not include some other phenomena of shock which are probably of great importance.

Several workers have shown that in shock there is transudation of fluid into the tissues. There is a rise in the specific gravity of the blood (from 1.054 to 1.062 in fifteen minutes during an intestinal anastomosis). The heart has an inadequate influx from

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the veins, and hence the output is reduced. Hypodermic injections are badly absorbed during shock.

Dolly and Crile have found changes in the nerve cells. The brain cells enlarged, burst their limiting membrane, and the Nissl bodies were dissipated. The cells in the spinal cord were not changed. Tyrrell, Gray, and Parsons, found changes best marked in the cuneate and gracile nuclei of the medulla, but not present in the vasomotor centre.

Bainbridge and Parkinson found no chromaffine substance in the medulla of the suprarenals in two patients who died of shock. If this absence indicate deficiency of adrenalin we might conclude that prolonged vaso-constriction has used up all available adrenalin and exhausted the further supply.

Rendle Short inclines to believe that the concentration of the blood is more important than has been supposed. This oligæmia explains the low blood pressure, with constricted arteries, vigorous heart muscle, and an active vasomotor centre. The changes in nerve cells are due to failure of their proper blood supply. The reason of the oligæmia has yet to be explained.—*The Universal Medical Record*.

In the treatment of peritonitis merely raising the head of the bed is not as satisfactory as propping the patient up in bed.—*American Journal of Surgery*.

In peritonitis the employment of Fowler's position should not be reserved for post-operative treatment. Use it as soon as the diagnosis is made.—*American Journal of Surgery*.

Small epigastric herniæ are usually of fat and contain no sac.—*American Journal of Surgery*.

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